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JANUARY 1994

LENGTH-FREQUENCY DATABASE DESCRIPTION: CALIFORNIA DEPARTMENT OF FISH & GAME GILL NET MARKET SAMPLES

By

John Childers and Laura Halko

ADMINISTRATIVE REPORT LJ-94-01

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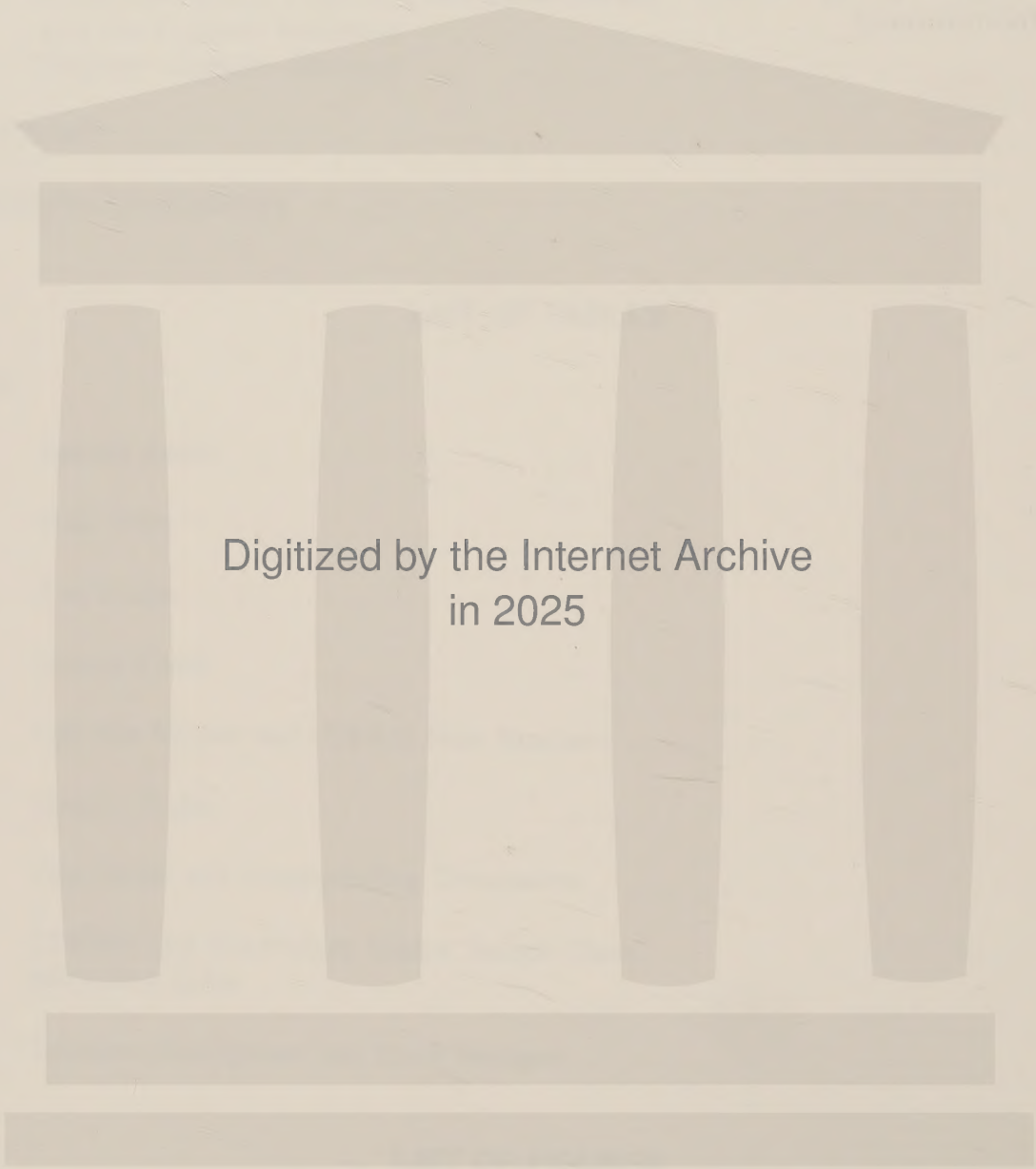

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October 25, 1993

INTRODUCTION

Since 1981 the California Department of Fish and Game (CDF&G) has collected length-frequency and landing data for catches landed by gill net fishing vessels at ports throughout California (see Table 3 for a list of ports). Drift gill net vessels target swordfish (*Xiphias gladius*), thresher sharks (*Alopias* spp.) and shortfin mako (bonito) sharks (*Isurus oxyrinchus*), incidentally catching tunas (*Thunnus* spp.), opah (*Lampris guttatus*), louvar (*Luvarus imperialis*) and other species of sharks. Set gill net vessels target several species of groundfish including California halibut (*Paralichthys californicus*) and Pacific angel shark (*Squatina californica*), incidentally catching rockfish (*Sebastes* spp.), Pacific bonito (*Sarda chiliensis*), sharks, and a wide variety of other species. See Table 1 for those species from which length-frequency data are collected.

Length-frequency samples are collected by CDF&G port samplers from fish landed by California gill net vessels. Information collected from these samples can include catch location(s), depth of catch, types of fishing gear employed, vessel identification number (boat number), date and location of landing, sample weights and landing weights, condition of the fish at the time of landing (dressed or whole), fish species, lengths (fork, total, or alternate), weights, sex, and reproductive information. The length-frequency data are transcribed from the market sample sheets to computerized data files by CDF&G editors.

This document describes the California gill net length-frequency data collected by CDF&G port samplers and the procedures used by National Marine Fisheries Service (NMFS) editors at the Southwest Fisheries Science Center (SWFSC) to organize, edit and archive the length-frequency data. Through a cooperative program, the SWFSC obtains California gill net market sample sheets and the corresponding ASCII data files from CDF&G. Length-frequency data for the years 1981 through 1990 have been made available to the SWFSC. More recent length-frequency data will be obtained by NMFS as it is made available by CDF&G.

Data Processing at SWFSC

NMFS editors at the SWFSC transfer the length-frequency data from the ASCII data files, provided by CDF&G, to length-frequency database files. These database files are created by NMFS editors using the commercial computer software DBASE III+ or FoxBASE+. The length-frequency data are edited by NMFS editors using the corresponding market sample

sheets (originals or microfilmed market sample sheets). Since not all data on the sample sheets are coded by CDF&G editors, missing data are added, erroneous entries are corrected, and geographic locations are translated from CDF&G block numbers into latitude and longitude coordinates. Any other relevant information available on the market sample sheets, which was not included in the corresponding ASCII data files, is added to the databases (e.g. reproductive information on sharks, sample weights, landing weights, landing locations and lengths and weights of other species such as tunas, louvar and opah, etc.). The length-frequency databases are cross-referenced with the corresponding landings receipts databases and gill net and harpoon logbook databases at the SWFSC to fill in missing data and to verify length-frequency database record entries. The databases are organized (***INDEX***ed) and archived for use by fisheries scientists and statisticians.

MARKET SAMPLE SHEETS

The length-frequency data collected by CDF&G port samplers are recorded on market sample sheets (see Appendix 1 for examples). Samples from set gill net landings and samples from drift gill net landings are recorded on different types of market sample sheets. The formats for the market sample sheets have been revised several times since 1981. In general, a market sample sheet consists of three sections: The top section contains information related to the fishing vessel, date the fish were unloaded and measured, sample weights and landing weights, type of gear used, location where fish were caught and the port and market where fish were unloaded and sold. The middle section contains information on species, lengths, weights and sex of each fish sampled. The bottom section includes information on other species landed and comments or observations by the sampler. With few exceptions, each market sample corresponds to a unique unloading date and boat number. After the length-frequency data have been edited and processed at the SWFSC, the original market sample sheets are microfilmed (see Table 8 for an index of microfilmed market sample sheets) and returned to CDF&G.

Alternate Lengths

Most of the swordfish and shark species caught by gill net vessels are dressed (headed and gutted) before delivery to market. Since neither fork lengths nor total lengths can be obtained from these species, alternate lengths are measured and recorded (see Figure 1). For swordfish, the standard alternate length recorded is from the rear margin of the cleithrum to the fork in the tail. For all shark species, the standard alternate length recorded is from the origin of the first dorsal fin to the origin of the second dorsal fin (Alt1 in Figure 1). An exception to this is the alternate length which was collected from angel sharks when they were first sampled in 1984. The alternate length collected during this period is the distance from the insertion of the first dorsal fin to the tip of the caudal fin (Alt2 in Figure 1). From 1985 through 1990 the standard alternate length, Alt1, was recorded by CDF&G samplers for angel sharks. Fork lengths (from the tip of the lower jaw to the fork in the tail) are recorded for tunas, opah and louvar whenever these species are landed whole and sampled.

Non-Standard Lengths

With the exception of angel shark lengths recorded in 1984, any lengths listed on the market sample sheets which are not of the standard length type for a species (e.g., a fork length measurement for swordfish) are entered onto a database named **LENFXTRA.DBF**. This database has the same structure as the other length-frequency databases, with an added field (LENGTHTYPE) to describe the type of length measurement recorded. Entries in this field include ALT1, ALT2, FORK and TOTAL. There are several market sample sheets for some months in 1989 with two types of length measurements recorded for swordfish. The cleithrum-fork lengths were placed on the database **LENF89.DBF**, while the other length measurements (Alt1 in Figure 1) were added to the database **LENFXTRA.DBF** along with other pertinent data.

Catch Positions

CDF&G block numbers are recorded on market sample sheets to indicate catch locations. A CDF&G block is an area of ocean within a quadrangle whose location and dimensions are described by positional coordinates (degrees and minutes of latitude and longitude). The size of these CDF&G blocks can vary (See Figure 2). Near-shore blocks are ten quare miles in area. Occasionally fish from one sample are caught from areas within more than one block. In these cases, multiple block numbers are listed on a market sample sheet.

Periodically, the names of fishing areas are recorded on market sample sheets in place of CDF&G block numbers. NMFS editors establish reference positions for these areas so they can be included in the length-frequency databases. When the name of a fishing area is recorded on the market sample sheet, the reference position is established at the southeast corner of a quadrangle encompassing that fishing area. See Table 9 for a partial list of some of the common fishing areas, their corresponding CDF&G block numbers, and the reference positions used to describe their locations.

Ports and Markets

On each market sample sheet, the port and market (or dealer), where a vessel's catch is landed and sold, is indicated by a code, a name, a synonym or an abbreviation (see Tables 3 and 4 for lists of ports and markets). Names, synonyms or abbreviations that are listed on the market sample sheets are converted to the corresponding port and/or market codes by NMFS editors and entered on the appropriate length-frequency database file. Occasionally, port and market codes are entered on a market sample sheet, or in a data file, for which no corresponding name can be found. Rather than remove these codes, they are included in the database files. Such codes are listed in Tables 3 and 4 as "unknown". Also occasionally found on the market sample sheets are names, synonyms, or abbreviations for which no corresponding market code can be found. In these cases a one or two digit code is assigned to the market listed. These codes are created sequentially. The database files PORTS.DBF and MARKETS.DBF contain the names, synonyms and codes for all ports and markets currently entered on the length-frequency databases. Port codes are generally three-digit numbers and market (dealer) codes are generally four or five-digit numbers.

LENGTH-FREQUENCY DATABASE DESCRIPTION

The length-frequency databases are created with FoxBASE+ or dBASE III+. The databases can also be copied to ASCII files. A separate database is established for each year's (set and drift gill net) length-frequency data. The database names are in the form **LENF<yy>.DBF** where yy is the year of the landing date for each record in the database. All the databases share a common structure. As discussed above, the database **LENFXTRA.DBF** contains an additional field named LENGTHTYPE.

Database Structure

Each record in a length-frequency database contains one length measurement recorded by a CDF&G port sampler and any other data available from the associated market sample sheet for that particular landing date, boat number and species. The current, standard structure of each length-frequency database (**LENF<yy>.DBF**) is as follows:

Field	Field Name	Field Type	Field Width
1	SAMPMON	Numeric	2
2	SAMPDAY	Numeric	2
3	SAMPYR	Numeric	2
4	LANDMON	Numeric	2
5	LANDDAY	Numeric	2
6	LANDYR	Numeric	2
7	BOATNO	Numeric	5
8	SPECIES	Numeric	3
9	LENGTH	Numeric	4
10	WEIGHT	Numeric	4
11	SEX	Numeric	1
12	SAMPNO	Numeric	5
13	SAMPWT	Numeric	5
14	LANDWT	Numeric	5
15	CONDITION	Character	1
16	PUPS	Numeric	1
17	NUMPUPS	Numeric	2
18	EGGS	Numeric	1
19	NUMEGGS	Numeric	2
20	GEAR	Numeric	2
21	DEPTH	Numeric	3
22	PORT	Numeric	3
23	MARKET	Numeric	5
24	SAMPLER	Character	4
25	QCOD1	Numeric	1
26	QCOD2	Numeric	1
27	QCOD3	Numeric	1
28	QCOD4	Numeric	1
29	QCOD5	Numeric	1

Field	Field Name	Field Type	Field Width
30	QCOD6	Numeric	1
31	QCOD7	Numeric	1
32	BLOCKNO	Numeric	4
33	SIZECODE	Numeric	4
34	QUAD	Numeric	1
35	LAT_DEG	Numeric	2
36	LAT_MIN	Numeric	2
37	LONG_DEG	Numeric	3
38	LONG_MIN	Numeric	2
** Total **			93

Additional data fields can be added to the current standard database structure to accommodate any new information which may be collected on the market sample sheets.

Data Field Descriptions

1. SAMPMON: Month the fish were measured.

2. SAMPDAY: Day the fish were measured.

3. SAMPYR: Year the fish were measured.

4. LANDMON: Month the fish were landed.

5. LANDDAY: Day the fish were landed.

6. LANDYR: Year the fish were landed.

7. BOATNO: CDF&G boat number (Table 5). Five-digit number (leading zeroes are ignored). Where no boat number is available or the fish arrived at a market by truck, the boat, the number 99999 is used. Associated quality code is QCOD1.

8. SPECIES: A three-digit, numeric, CDF&G species code (Table 1). The most common species are swordfish, thresher shark, shortfin mako (bonito) shark, angel shark, opah, louvar, albacore, yellowfin, and bigeye tunas. Associated quality code is QCOD5.

9. LENGTH: Length (mm) of the sampled fish rounded up to the nearest 10 mm. Alternate lengths are recorded for swordfish and sharks (Figure 1). Fork lengths are recorded for opah, louvar and tunas. Associated quality code is QCOD2.

10. WEIGHT: The corresponding weight of the sampled fish (lbs) at the time of sampling, rounded to the nearest pound.

11. SEX: A numeric code for sex of fish (if available). 1=male, 2=female.

12. SAMPNO: Sample number assigned by a CDF&G sampler. Each sample number corresponds to one species, landing date and boat number. Sample numbers are available for 1989 and later years.

13. SAMPWT: The total weight (lbs.) of all sampled fish of the same species, landing date and boat number. The sample weight is equal to the landing weight only if all the fish landed (of the same species, landing date and boat number) were sampled. Associated quality code is QCOD6.

14. LANDWT: The total weight (lbs.) of all fish that were landed (unloaded) for the species, landing date and boat number recorded on the market sample sheet. The landing weight is either listed on the market sample sheet or is cross-referenced from the landings receipts (pink ticket) database (see the following section "Data From Other Sources"). Associated quality code is QCOD6.

15. CONDITION: An alphanumeric code indicating whether the fish was whole or dressed at the time of sampling. W=whole, D=dressed.

16. PUPS: For female sharks, a numeric code to indicate if pups are present in the reproductive tract. 0=no, 1=yes.

17. NUMPUPS: For female sharks, the number of pups present in the reproductive tract.

18. EGGS: For female sharks, a numeric code to indicate if eggs are present in the reproductive tract. 0=no, 1=yes.

19. NUMEGGS: For female sharks, the number of eggs present in the reproductive tract.

20. GEAR: A two-digit, numeric, CDF&G code describing the type of fishing gear used to catch the species indicated on the market sample sheets (Table 2). Where no gear type is indicated on the market sample sheet, the length-frequency data are cross-referenced with the corresponding data in the landings receipts, gill net logbook, and/or harpoon logbook database files to determine gear type (see the following section "Data From Other Sources"). If the gear type cannot be determined from cross-referencing, it is inferred (if possible) from the species listed (e.g., if angel sharks are sampled, then gear is assumed to be set gill net). An exception is where thresher sharks are the only species listed on a market sample sheet and no gear is indicated. Since thresher sharks occur in both set and drift gill net catches, the gear type cannot be inferred. When market sample sheets indicate that a combination of gear types was employed (drift gill net & harpoon or drift gill net & jig) a code in the 90 to 99 range is used to indicate multiple gear types were involved. Associated quality code is QCOD4.

21. DEPTH: The depth (fathoms) at which the net was set when fish were caught.

22. PORT: A three-digit, numeric, CDF&G code indicating the port where the catch was unloaded (Table 3). Associated quality code is QCOD7.

23. MARKET: A five-digit, numeric, CDF&G code indicating the final market or buyer that purchased the fish (Table 4). Associated quality code is QCOD7.

24. SAMPLER: An alphanumeric CDF&G code consisting of the first four letters of the sampler's last name as written on the market sample sheet.

25-31. QCOD1-QCOD7: Numeric, quality codes used to indicate the source of, or any special problems with the data in the corresponding field. Each code ranges from zero to nine. Zero indicates no apparent problems with or discrepancies in the respective field's data. Nine indicates no data were available (Table 6).

32. BLOCKNO: The three or four-digit, CDF&G block number used to describe catch locations. Where more than one block is listed on a market sample sheet, the southeastern-most block is entered. Block numbers 900 to 999 describe areas in Mexican waters. Block numbers 1000 and greater indicate catch areas off the coasts of Washington and Oregon (Figure 2). Associated quality code is QCOD3.

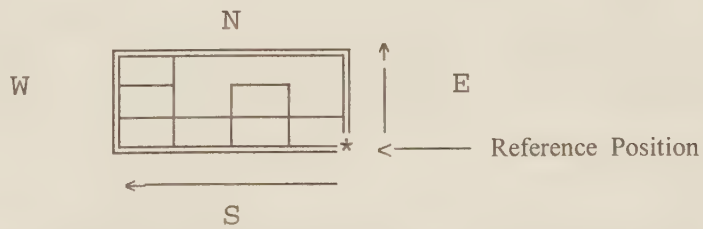
33. SIZECODE: A three to four-digit, numeric code that indicates the dimensions (in degrees and minutes of latitude and longitude) of a quadrangle encompassing all CDF&G blocks and/or catch areas indicated on a market sample sheet. See the following section "Size Codes" for details. Associated quality code is QCOD3.

34. QUAD: A single digit, numeric code describing the global quadrant from which the catch was taken. Range is 1 to 4. 1=NE, 2=SE, 3=SW, 4=NW. All length-frequency data are taken from NW (4).

35-38. LAT_DEG, LAT_MIN, LONG_DEG, LONG_MIN: Degrees and minutes of latitude and longitude of a reference position describing catch location(s). See the previous sections "Catch Positions" and the following section "Conversion Program **ADDCOORD.PRG**" for details of catch locations and reference positions.

Size Codes

A size code has been developed to indicate the relative size of the area from which sampled fish were caught. Each size code corresponds to a distance north and a distance west from a reference position located at the southeast corner of the block(s) or catch areas listed on a market sample sheet:



These two distances describe the dimensions (in degrees and minutes) of a quadrangle encompassing all the blocks, or the catch areas, indicated on a market sample sheet. The smallest size of a quadrangle and CDF&G block is 10 minutes latitude by 10 minutes

longitude. The size code is included in the length-frequency databases under the field SIZECODE. See Table 7 for a list of size codes and their corresponding dimensions.

Index Files

Index files are created for each database using FoxBASE+ (or dBASE III+) to arrange the records by date of landing and boat number in ascending order. The associated index file names are in the form **LEN<yy>KEY.IDX** where yy is the appropriate year of the landing date. The index file for **LENFXTRA.DBF** is named **LENFXKEY.IDX.** If a database is modified without also modifying the associated index file, then the index file must be re-indexed before being used again (refer to a FoxBASE+ (or dBASE III+) user's guide for details of using index files). Before making any changes to a database the user should confirm that the corresponding index file for a database is enabled and is updated.

The databases can be accessed by FoxBASE+ or dBASE III+. However, the index files created with FoxBASE+ are not compatible with dBASE III+ and must be recreated if using dBASE III+. Please refer to the appropriate user's guide for each software package for details.

LENGTH-FREQUENCY DATABASE MANIPULATIONS

Creating New Databases

Market sample length-frequency data are received from CDF&G as ASCII data files. The data in these ASCII files must be reformatted before they can be included in either new or existing database files. Since the data files received from CDF&G are not in the same format as the database files maintained at the SWFSC, they cannot be directly appended to current database files. If they were to be added directly, the data would be placed into wrong fields and data field separation would not be maintained. First, the data are added to a temporary database file in FoxBASE+ or dBASE III+ format. Next, the structure of the temporary database is manipulated to match the standard database file structure (described above). Next, the length-frequency data in the temporary database files are edited and sorted by NMFS editors. Finally, the data are added to permanent database files maintained at the SWFSC.

Step 1. Determining the CDF&G Data File Format.

The CDF&G gill net length-frequency data are in unformatted ASCII data files when received by NMFS editors. The files can be viewed and/or printed with any word processing software. A typical ASCII data file contains a brief description of the fields followed by the data:

```
                Brief Description of ASCII Record Dump
                     Field #       Description       Length
                          1.             month            2
                          2.               day            2
                          3.              year            2
                          4.       F&G Boat #             6
                          5.     species code             4
                          6.              port            4
                          7.      F&G block #             4
                          8.             depth            5
                          9.              gear            3
                         10.            dealer            4
                         11.    sample weight          6.1
                         12.   landing weight          6.0
                         13.           sampler            4
                         14.       age sample            2
                         15.        condition            2
                         16.           sample            5
                         17.           length            5
                         18.           weight            6
                         19.              sex            2
                         20.            RLeye            2
                         21.              age            3
                         22.       year class            3
111989 02457 165 611   0    0 66   1 105.0   105  GD N D 4182   96     0 1 N  0  0
111989 02457 165 611   0    0 66   1 105.0   105  GD N D 4182  113     0 1 N  0  0
111989 02457 165 611   0    0 66   1 105.0   105  GD N D 4182  109     0 1 N  0  0
111989 02457 165 611   0    0 66   1 105.0   105  GD N D 4182  111     0 1 N  0  0
111989 02457 165 611   0    0 66   1 105.0   105  GD N D 4182  128     0 1 N  0  0
111989 40190 165 611   0    0 66   1  24.0    24  GD N D 4181  123     0 1 N  0  0
```

Each field of data is separated from the next field by a blank space. These blanks must be removed. This can be done by assigning each blank, dividing space a field name of its own (e.g. BLANK1, BLANK2, etc.) and deleting these fields when manipulating the structure of the database (see "Step 4. Manipulating the Structure of the Temporary Database").

STEP 2. Creating a Temporary Database.

The FoxBASE+ (or dBASE III+) command ***CREATE*** is used to create a temporary database with fields to incorporate each column of data (including blank columns used to separate data fields) in the ASCII data file. The following is an example of a temporary database structure created to incorporate the data from the ASCII file in the previous example:

Field Name	Type	Width	Dec
1 BLANK	Numeric	1	0
2 LANDMON	Numeric	2	0
3 LANDDAY	Numeric	2	0
4 LANDYR	Numeric	2	0
5 BLANK1	Numeric	1	0
6 BOATNO	Numeric	5	0
7 BLANK2	Numeric	1	0
8 SPECIES	Numeric	3	0
9 BLANK3	Numeric	1	0
10 PORT	Numeric	3	0

Field Name	Type	Width	Dec
12 BLOCKNO	Numeric	4	0
13 BLANK4	Numeric	2	0
14 DEPTH	Numeric	3	0
15 BLANK5	Numeric	1	0
16 GEAR	Numeric	2	0
17 MARKET	Numeric	4	0
18 BLANK6	Numeric	1	0
19 SAMPWT	Numeric	5	1
20 BLANK7	Numeric	1	0
21 LANDWT	Numeric	5	1
22 SAMPLER	Character	4	0
23 AGESAMPLE	Character	2	
24 BLANK8	Numeric	1	0
25 CONDITION	Character	1	
26 SAMPNO	Numeric	5	0
27 BLANK9	Numeric	1	0
28 LENGTH	Numeric	4	0
29 BLANK10	Numeric	2	0
30 WEIGHT	Numeric	4	0
31 BLANK11	Numeric	1	0
32 SEX	Numeric	1	0
33 RLEYE	Character	2	
34 AGE	Numeric	3	0
35 YEARCLASS	Numeric	3	0

STEP 3. Appending Data to the Temporary Database.

The data are transferred from the ASCII file to the temporary database by entering the following commands at the FoxBASE+ (or dBASE III+) dot prompt:
***.USE* <name of temporary database>**
.APPEND FROM* <name of ASCII file> *SDF

STEP 4. Manipulating the Structure of the Temporary Database.

The FoxBASE+ (or dBASE III+) command ***MODIFY STRUCTURE*** can be used to manipulate the structure of the temporary database to match the standard structure of the existing length-frequency databases. Field names are changed as needed to match the field names of the standard structure. Blank fields and fields which are not included in the standard structure (e.g. RLEYE, AGE, YRCLASS) are deleted. Fields are inserted to match the standard structure (e.g. QUAD, LAT_DEG, LAT_MIN, etc.). Care must be exercised so that no data are lost when manipulating field widths. Refer to the appropriate user's manual for details of using this and other structure-related commands.

STEP 5. Appending the Data to the Appropriate Length-frequency Database.

When the field names, field types and field widths of the temporary database match that of the current, standard, length-frequency database structure, the new data in the temporary database is edited (see the following section "Database Editing"). When the data have been checked for completeness and accuracy, the FoxBASE+ (or dBASE III+) command ***APPEND*** is used to copy the new data into its appropriate length-frequency database:

.USE **LENF<yy>.DBF** ***INDEX*** **LEN<yy>KEY**
.APPEND FROM <name of temporary database>

When the user is satisfied that the new data have been completely edited and properly appended to the permanent databases, the new **LENF<yy>.DBF** length-frequency database is backed up.

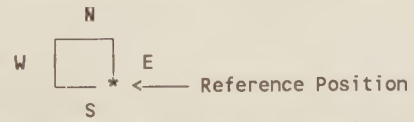
Database Editing

The length-frequency databases are edited using the market sample sheets (originals or microfilmed copies). Each record of a length-frequency database is checked for completeness and accuracy by comparing the information in each record with the data on the corresponding market sample sheet. Any typographic errors are corrected. All lengths are converted to millimeters if necessary.

Any relevant data available on the market sample sheets which are not included in the CDF&G data files (e.g., lengths and weights of incidental species, port and market codes, the presence of pups or eggs in sharks, etc.) are added to the length-frequency databases using FoxBASE+, dBASE III+, and/or the editing program **ADDCODES.PRG** (explained below). Quality codes are established and entered on the length-frequency databases, as needed, when new data are added to the databases. Quality codes indicate any problems with, or disparities in the length-frequency data. See Table 6 and the field description of QCOD1-QCOD7 for further details of quality codes.

Conversion Program ADDCOORD.PRG

A FoxBASE+ (dBASE III+) program named **ADDCOORD.PRG** is used by NMFS editors to convert the CDF&G block numbers (listed on a market sample sheet) to a reference position located at the southeast corner of the respective block:



Where more than one block is listed on a market sample sheet, the southeastern-most block is used to establish the reference position. When the name of a fishing area is recorded on the market sample sheet, the reference position is established at the southeast corner of a quadrangle encompassing that fishing area.

The **ADDCOORD.PRG** program enters a corresponding size code in the data field SIZECODE for each reference position it enters on the database. NMFS editors edit the size codes to ensure that the quadrangle (described by the size code and reference position entered on a length-frequency database) encompasses the entire area of catch indicated on a market sample sheet. To run the **ADDCOORD.PRG** program successfully, the following files must be in the current working directory:

LENFyy.DBF
BLCOORDS.DBF
BLOCKEY.IDX

The user enters ***DO ADDCOORD*** at the FoxBASE+ (or dBASE III+) dot prompt. The user then follows the directions supplied on the screen by the program.

Editing Program ADDCODES.PRG

The FoxBASE+ (dBASE III+) program **ADDCODES.PRG** was developed to allow the user to make corrections to data in the database records. All field values may be edited. The program uses a record number or the date of landing and boat number, entered by the user, to search for and display the field values of the corresponding record. The following files must be in the current, working directory for the program **ADDCODES.PRG** to run successfully:

LENFyy.DBF
MARKET.DBF
MARKEY.IDX
PORTS.DBF
PORKEY.IDX

To execute **ADDCODES.PRG**, the user enters ***DO ADDCODES*** at the dot prompt. The following screen displays are used to prompt the user.

```
Enter the name of a Market Sample database to add market
codes and weights to (ENTER BLANK TO EXIT):
```

LENF<yy> should be entered where yy represents the appropriate year. The program then prompts the user for a record number or landing date and boat number:

```
Enter the name of a Market Sample database to add market
codes and weights to (ENTER BLANK TO EXIT):  LENFyy

Enter the record number or date/boat# to start at (BLANKS
TO EXIT).
            Record#:        Date/Boat#:   /  /
```

If the record number, or date and boat number entered by the user are not located, the program prompts the user for another record number, or date and boat number. If the corresponding record is located, the program displays a screen as shown in the following example:

EXAMPLE

```
                MARKET SAMPLE DATABASE UPDATE
Currently at record 1063 of LENFyy.DBF.  Use format
MM/DD/YY for dates.  To exit, enter 11111 for market code.

 Landing date: 01/02/93  Sample Date: 01/02/93  Boat#: 12345
                                                Q Lat    Long
 F & G Block #: 123                Coordinates: 4:41:10:125:10

 Market code: 06465      Port code: 606      Gear code: 65

 Species code: 091       Length: 0234        Weight: 0234

 Sex: 1        Condition: D    Pups? (Y/N): _ No.of pups:

 Eggs? (Y/N): _ No. of eggs:    Depth: 123  Sample #: 12345

 Sampler: SMIT        Sample Wt.: 00345    Landing wt.: 12345

 Quality codes:

 Boat#: 0  Len: 0  Loc: 0  Gr: 0  Spc: 0  Wt: 0  Landing: 0
```

The user can use the ESC key at any time to view and/or edit the next record of the database while saving any changes that have been made to the current record. To exit this screen, the user must enter "11111" for the market code, then press the ESC key or the ENTER key until the end of the entry fields has been reached.

Updating Records

Direct queries to the length-frequency databases are made through the FoxBASE+ (or dBASE III+) commands ***BROWSE*** or ***DISPLAY***. The ***APPEND*** and ***INSERT*** commands are used to add records to a database. Changes to the data can be made using the ***BROWSE*** command or the editing program **ADDCODES.PRG**. The ***DELETE*** and ***PACK*** commands are used to remove records. Associated index files need to be updated when adding records, deleting records, or editing a key field in the database file. When using the program **ADDCODES.PRG**, the associated index files are automatically updated.

OPTION 1: Adding Records

Once a length-frequency database is ***USE***'d, the user may add records with the commands ***INSERT*** or ***APPEND***. The command option ***SET CARRY-ON*** enables the field values from the previous record to be used for the field values of the record being added (refer to a FoxBASE+ (or dBASE III+) reference manual for details). When the ***APPEND*** command is used the following screen is displayed to prompt the user:

```
Record No. _____

+-----------------+-----------------+-----------------+-----------------+
| CURSOR <-- -->  |        UP DOWN  |    DELETE       | Insert Mode: Ins|
| Char:   ←  →    | Field: ↑   ↓    | Char: Del       | Exit/Save:  ^End|
| Word: Home End  | Page:PgUp PgDn  | Field: ^Y       | Abort:       Esc|
|                 | Help: F1        | Record:^U       | Memo:       ^Home|
+-----------------+-----------------+-----------------+-----------------+

  SAMPMON
  SAMPDAY
  SAMPYR
  LANDMON
  LANDDAY
  LANDYR
  BOATNO
  SPECIES
  LENGTH
  WEIGHT
  SEX
  SAMPNO
  SAMPWT
  LANDWT
  CONDITION
  PUPS
  NUMPUPS
  EGGS
  NUMEGGS
  GEAR
  DEPTH
  PORT
  MARKET
  SAMPLER
  QCOD1
  QCOD2
  QCOD3
  QCOD4
  QCOD5
  QCOD6
  QCOD7
  BLOCKNO
  SIZECODE
  QUAD
  LAT_DEG
  LAT_MIN
  LONG_DEG
  LONG_MIN
```

OPTION 2: Modifying Records

The length-frequency database records can be modified using the FoxBASE+ (or dBASE III+) command ***BROWSE*** or the program **ADDCODES.PRG** (discussed above). When using the ***BROWSE*** command to make changes, the user must move to the next record (or use CNTRL-END to leave the ***BROWSE*** mode) to save editing changes.

OPTION 3: Deleting Records

Once a Market Sample database is in ***USE***, the user may mark individual records for deletion or perform a global deletion for records meeting a specified criteria (see a FoxBASE+ (or dBASE III+) manual for details of the ***DELETE*** command). The user may verify the records marked for deletion by checking the status bar at the bottom of the screen. A record is not permanently removed from a database until the FoxBASE+ (or dBASE III+) command ***PACK*** is performed on that database. If the corresponding index file is enabled when a ***PACK*** command is performed, the index file is automatically updated (***REINDEX***ed). If the corresponding index file is not enabled when a ***PACK*** command is performed, the user must ***REINDEX*** the associated index file.

DATA FROM OTHER SOURCES

The market sample length-frequency database records occasionally have missing information for one or more fields. When possible, the length-frequency database files are cross-referenced with the corresponding landings receipts database, gill net logbook database or harpoon logbook database files available at the SWFSC to fill in missing information. These database files are cross-referenced on fields containing corresponding data. For example, the data in the length-frequency database fields PORT, MARKET and LANDWT are cross-referenced with the corresponding data in the landing receipts (pink ticket) database fields PORT, DEALER, and LANDWT to fill in missing entries and to verify other entries.

Landing Receipts Data

Landing data for catches landed by California gill net vessels are derived from CDF&G landing receipts (pink tickets) which are filled out each time a vessel sells its catch to a market or dealer. California gill net landing receipts data are available at the SWFSC in the form of FoxBASE+ (or dBASE III+) database files. These landing receipts (pink ticket) database files have the name **LAND**<yy>**.DBF** and their corresponding index files have the name **LAN**<yy>**KEY.IDX** where yy is the year of the landing date for all records in that file. A FoxBASE+ (dBASE III+) program, **CHKMARKT.PRG**, is used to cross-reference the length-frequency databases with the landings receipts databases (see the following section "Cross-Referencing Program **CHKMARKT.PRG**").

Ports and Markets

If a port or market is not indicated on a market sample sheet and is not available from the corresponding landing receipts database, then 0000 is entered into the market or port code

field on the corresponding length-frequency database. If a port or market code is listed on a market sample sheet for which no corresponding port or market name can be determined, the code is retained in the database. The name for such port and market codes are listed in Tables 3 and 4 as "unknown". If sampled fish from the same landing date and boat number are sold to more than one market, the market code is entered as 0000 on the length-frequency database unless the market to which each sampled fish was delivered is clearly indicated on the market sample sheet. If no port or market code can be found for a port or market name listed on a market sample sheet, a new code is created by NMFS editors. The new code is added to the corresponding length-frequency database and the current port or market code list (Table 3 or 4). Quality code QCOD7 describes the source of port and market codes.

Landing Weights

If landing weights are entered on a market sample sheet and are available from the landing receipts database, the landing weight from the market sample sheet is entered in the corresponding length-frequency database record. If landing weights are not found on the corresponding market sample sheet but are available from the landing receipts database, the landing weight from the landing receipt database is copied to the corresponding length-frequency database record. Quality code QCOD6 describes the source of the landing weight entered on the length-frequency database.

Sample Weights

The sample weight recorded on a market sample sheet is equal to the sum of the individual fish weights for the species being sampled. If weights are not available for each fish sampled, the sample weight is equal to the total weight of all the fish sampled (for instances where groups of sampled fish were weighed together). If a total weight of all the fish sampled is not available, the sample weight recorded by the port sampler in the bottom section of the market sample sheet is entered on the length-frequency database. If the market sample sheet indicates that all the landed fish were sampled (for the corresponding landing date, boat number and species), then the landing weight is entered as the sample weight. The quality code in the database field QCOD6 indicates the source of the sample weight and landing weight entered for that record.

Cross-Referencing Program CHKMARKT.PRG

A FoxBASE+ (dBASE III+) program named **CHKMARKT.PRG** is used to cross-reference the length-frequency database records with the corresponding landing receipts database records. Records are cross-referenced on date of landing, CDF&G boat number and species code. The port code, market code and landing weight fields in the landing receipts database are compared with each corresponding record in the length-frequency database. If one of these field values is missing from a length-frequency database record, the **CHKMARKT.PRG** program copies this information (if available) from the corresponding record in the landing receipts database. The **CHKMARKT.PRG** program does not replace non-zero entries on the length-frequency database being cross-referenced. The program enters the appropriate quality code to the field QCOD6 to indicate the source of the sample weight and/or landing weight information added to the length-frequency database. The program also

adds the appropriate quality code to the field QCOD7 to indicate the source of the port and market information added to the length-frequency database.

The following files must be in the current working directory for the program **CHKMARKT.PRG** to run successfully:

LENFyy.DBF
LANDyy.DBF
LANyyKEY.DBF

To execute the **CHKMARKT.PRG** program the user enters ***DO CHKMARKT*** at the FoxBASE+ (or dBASE III+) dot prompt. The following screen prompts the user for the database and index files to be ***USE***d:

```
Enter below the name of a Market Sample database to add
Market and port codes to and the name of a pink-ticket
database/index file combination (ENTER BLANKS TO EXIT).

Market sample database:

Pink-ticket database:          Index file:
```

The program will re-display this screen if incorrect information is entered by the user.

Gill Net Logbook Databases

Gill net logbook data (for set and drift gill net vessels) are available at the SWFSC in the form of FoxBASE+ (or dBASE III+) databases. The databases are named <yy>**EDCOMP.DBF** where yy is the appropriate year of each record's date. Each database contains data from April of the year indicated in the database's name, through March of the following year. Using methods similar to those discussed above, the user can cross-reference data common to both the gill net logbook databases and the corresponding length-frequency databases. Data common to both databases include boat name, CDF&G boat number, catch location, depth of catch, species, number of fish caught and other information. The FoxBASE+ (or dBASE III+) commands ***BROWSE***, ***LIST FOR...*** , and ***DISPLAY FOR...*** are the most commonly used and the most useful commands for perusing the databases.

Harpoon Logbook Databases

Market sample length-frequency databases are also cross-referenced with harpoon logbook databases. The harpoon logbook databases are in FoxBASE+ (or dBASE III+) format. They are named **HARP**<yyYY>**.DBF**. The variables yy and YY are consecutive integers indicating the year of the landing date (e.g. 8788) for each record. The databases contain

information such as vessel name, CDF&G boat number, catch date, CDF&G block number, species, and estimated (live) weight.

Using some of the FoxBASE+ (or dBASE III+) commands described earlier, the user can cross-reference this information with corresponding data in the length-frequency database files. To cross-reference the information in an individual record in the length-frequency database, the user can perform a search on the harpoon logbook database for the boat number, a catch date (or catch date range), and/or the species in question. For example, if the user wanted to find a weight of one or more swordfish that are in one of the length-frequency databases, the following commands could be used to locate the relevant records in the harpoon logbook database:

***.USE* HARP<yy>.DBF**
.LOCATE FOR* BOATNO=**boat number.AND.*DATE=**date of catch***.AND.*SPECIES=91**

The user could then enter the command ***BROWSE*** to view the record values.

SUMMARY

Length-frequency data are collected from California gill net landings by CDF&G port samplers at markets throughout California. CDF&G editors transcribe the collected data into computerized ASCII data files. These files are obtained from CDF&G by the SWFSC. NMFS editors transfer the length-frequency data from CDF&G ASCII files to FoxBASE+ (or dBASE III+) database files. Using dBASE III+, FoxBASE+, and/or editing programs, NMFS editors edit the data, correcting erroneous entries and adding other available information to the databases. The length-frequency data are also cross-referenced with data available from the corresponding landings receipts databases, gill net vessel logbook databases, and harpoon vessel logbook databases at the SWFSC. The data are organized and archived at the SWFSC for use by fisheries scientists and statisticians. Data are available for the years 1981 through 1990. New information is added to the databases as it becomes available.

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Al Coan helped design the database and position conversion section, Doug Prescott developed and wrote the dBASE III+ programs used in editing and cross-referencing the databases. Karen Handschuh formatted and typed the manuscript. We would also like to thank Ken Wallace, Al Jackson, Dave Holts, and Rob Bistodeau of the SWFSC and Melodie Palmer-Zwahten of CDF&G for reviewing this report and making helpful suggestions.

Table 1. Species Codes

1	YELLOWFIN TUNA	(*Thunnus albacares*)
3	PACIFIC BONITO	(*Sarda chiliensis*)
4	PACIFIC BLUEFIN TUNA	(*Thunnus thynnus*)
5	ALBACORE TUNA	(*Thunnus alalunga*)
8	BIGEYE TUNA	(*Thunnus obesus*)
91	SWORDFISH	(*Xiphias gladius*)
96	WHITE SHARK	(*Carcharodon carcharias*)
97	BIGEYE THRESHER	(*Alopias superciliosis*)
98	PELAGIC THRESHER	(*Alopias pelagicus*)
127	?	
149	BLACK TIP SHARK	(*Carcharhinus limbatus*)
151	BONITO OR MAKO SHARK	(*Isurus oxyrinchus*)
153	LEOPARD SHARK	(*Triakis semifasciata*)
155	COMMON THRESHER	(*Alopias vulpinus*)
158	HAMMERHEAD SHARKS	(*Sphyrna* spp.)
159	SOUPFIN SHARK	(*Galeorhinus galeus*)
165	ANGEL SHARK	(*Squatina californica*)
167	BLUE SHARK	(*Prionace glauca*)
168	SALMON SHARK	(*Lamna ditropis*)
191	LOUVAR	(*Luvarus imperialis*)
209	PETRALE SOLE	(*Eopsetta jordani*)
222	CALIFORNIA HALIBUT	(*Paralichthys californicus*)
260	CALIFORNIA SCORPIONFISH	(*Scorpaena guttata*)
467	OPAH	(*Lampris guttatus*)

Table 2. Gear Codes

0	UNKNOWN
1	HOOK AND LINE
5	LONGLINE
6	JIG
12	HARPOON
20	TRAPS
27	TRAP (CRAB, LOBSTER)
50	TRAWL NETS
54	MID-WATER TRAWL
56	BOTTOM TRAWL
60	ENTANGLING NET
65	DRIFT GILL NET
66	SET GILL NET
71	PURSE SEINE
74	LAMPARA SEINE
90	UNKNOWN COMBINATION
91	DRIFT G.N. + HARPOON
92	DRIFT G.N. + JIG
93	HARPOON + JIG

Table 3. Port Codes

PORT CODE	PORT NAME
471	ALAMEDA
484	ALBANY
211	ALBION
449	ALVISO
427	ANCHOR BAY
356	ANTIOCH
360	ANTIOCH BRIDGE
599	APTOS
741	AVALON
602	AVILA
764	BALBOA
648	BAYWOOD PARK
341	BENICIA
472	BERKELEY
473	BODEGA BAY
487	BOLINAS
410	BURLINGAME
893	CARDIFF
891	CARLSBAD
589	CARMEL
635	CARPENTERIA
733	CATALINA ISLAND
603	CAYUCOS
455	CHINA CAMP
889	CHULA VISTA
342	COLLINSVILLE
619	CONCEPTION
765	CORONA DEL MAR
884	CORONADO
491	CORTE MADERA
201	CRESCENT CITY
357	CROCKETT
767	DANA POINT
596	DAVENPORT
890	DEL MAR
441	DILLON BEACH
437	DRAKES BAY
709	EL SEGUNDO
222	ELK
425	EMERYVILLE
894	ENCINITAS
220	EUREKA
200	EUREKA AREA
485	FARALLONE IS
217	FIELDS LANDING
223	FORT BRAGG
549	FORT ORD
409	FOSTER CITY
604	GAVIOTA
412	GLEN COVE
614	GOLETA
490	HAMLET
756	HERMOSA
219	HUMBOLDT
768	HUNNINGTON BEACH
868	IMPERIAL BEACH
474	INVERNESS
489	JENNER

PORT CODE	PORT NAME
246	KING SALMON
888	LA JOLLA
749	LAGUNA
867	LEUCADIA
227	LITTLE RIVER
743	LONG BEACH
411	LOS ALTOS
744	LOS ANGELES
700	LOS ANGELES AREA
729	MALIBU
762	MANHATTAN BEACH
488	MARCONI COVE
598	MARINA
462	MARSHALL
348	MARTINEZ
445	MARTINS BEACH
463	MCNEARS POINT
228	MENDOCINO
431	MILL VALLEY
486	MILLERTON
869	MISSION BAY
886	MISSION BEACH
550	MONTEREY
500	MONTEREY AREA
235	MOONSTONE BEACH
606	MORRO BAY
592	MOSS LANDING
423	MUIR BEACH
882	NATIONAL CITY
748	NEWPORT BEACH
464	OAKLAND
885	OCEAN BEACH
752	OCEAN PARK
607	OCEANO
883	OCEANSIDE
608	OXNARD
587	PACIFIC GROVE
439	PACIFICA
585	PEBBLE BEACH
482	PESCADERO
479	PIDGEON POINT
450	PINOLE
610	PISMO BEACH
345	PITTSBURG
776	PLAYA DEL REY
213	POINT ARENA
620	POINT ARGUELLO
757	POINT DUME
586	POINT LOBOS
881	POINT LOMA
481	POINT MONTARA
628	POINT MUGU
476	POINT REYES
483	POINT SAN PEDRO
367	PORT COSTA
605	PORT HUENEME
452	PRINCETON
742	REDONDO BEACH

PORT CODE	PORT NAME
442	REDWOOD CITY
202	REQUA
478	RICHMOND
630	RINCON
498	ROCKAWAY BEACH
451	RODEO
414	SAN BRUNO
766	SAN CLEMENTE
734	SAN CLEMENTE ISLAND
880	SAN DIEGO
800	SAN DIEGO AREA
440	SAN FRANCISCO
400	SAN FRANCISCO AREA
430	SAN LEANDRO
465	SAN MATEO
770	SAN PEDRO
466	SAN QUENTIN
468	SAN RAFAEL
615	SAN SIMEON
611	SANTA BARBARA
600	SANTA BARBARA AREA
593	SANTA CRUZ
623	SANTA CRUZ ISLAND
747	SANTA MONICA
469	SAUSALITO
760	SEAL BEACH
588	SEASIDE
629	SHELL BEACH
215	SHELTER COVE
203	SMITH RIVER
895	SOLANA BEACH
634	SOLIMAR
470	SOUTH SAN FRANCISCO
447	STEWARTS POINT
497	STINSON BEACH
739	SUNSET BEACH
621	SURF
745	TERMINAL ISLAND
496	TIBURON
477	TOMALES BAY
751	TOPANGA CANYON
231	TRINIDAD
0	UNKNOWN
454	UNKNOWN
475	UNKNOWN
612	UNKNOWN
616	UNKNOWN
759	UNKNOWN
453	VALLEJO
753	VENICE
613	VENTURA
263	WHITEHORN
746	WILMINGTON

Table 4. Market Codes

MARKET NAME	MARKET CODE
A A ICEHOUSE	7949
A. PUCCINI & SONS INC.	4565
A. PUCCINI & SONS INC.	4565
A. PUCCINI & SONS INC.	4565
AMERICAN	7811
AMERICAN FISHERIES	80
AMERICAN SEAFOODS	8346
AMERICAN STAR	16
ANTHONY'S FISH GROTTO	28
ATLANTIS	7956
AVILA BAY SEAFOOD CO.	6707
AVILLA FISH CO.-TRACY, CA.	30788
BOB MORRELL ENTERPRISES-S.CRUZ	5997
BRANDEN	35
BRANDON (Fish Co.)	6513
BRANDON KING (CHANNEL ISLANDS)	6513
BRANDON KING SEAFOOD	6513
BRANDON SEAFOOD	6513
BREBES OCEAN HOUSE INC	6233
BUSALACHI	38
BUTCHER BOY MEATS	7253
CAL ISLAND-VENTURA	6458
CAL PACIFICA-VENTURA	75
CALIFORNIA SEAFOOD- SAN DIEGO	80192
CALIFORNIA SHELLFISH	4270
CAMMER SEAFOODS INC.	7561
CANNERY MORRO BAY	6465
CAPTAIN'S GALLEY INC.	8719
CARDOSA-MAURER SEAFOODS INC.	8993
CASTAGNOLA BROS.-SANTA BARBARA	6769
CATALINA	7501
CATALINA FISH CO.INC.-SAN PEDRO	7501
CENTRAL COAST SEAFOOD INC.	6866
CHESAPEAKE FISH CO. INC.	8905
COASTLINE-SANTA ANA	57
CONSOLIDATED FACTORS-SAN JOSE	5706
CORAL SEAFOODS	79
CORDERO/WINSTON -MORRO BAY	64
DAVE ARPIA	53
DEL MAR FISH-MONTEREY	60240
DIGIROLAMO FISH CO	5607
EL MORRO OYSTER & ABALONE CO.	6258
ESTERO BAY FISH CO.-MORRO BAY	6283
ESTERO BAY SEAFOODS	1
FARALLON FISHERIES -SO.S.F.	4453
FISHERMAN'S MARKET	2
FISHERMAN'S VILLAGE SEAFOOD CO.	8979
FISHERMAN'S VILLAGE SEAFOOD CO.	8979
FISHERMAN'S VILLAGE SEAFOOD CO.	8979
FISHERMAN'S VILLAGE SEAFOOD CO.	8979
FISHERMAN'S VILLAGE SEAFOOD CO.	8979
FISHERMAN'S VILLAGE SEAFOOD CO.	8979
FISHERMAN'S WHARF	6897
FLYING FISH CO.	6407
FOGHORN FISH CO.	6503
FOOD WEST	22
G STREET SEAFOOD	13
GALLETI-LOS ANGELES	7883
GALLETI-SAN DIEGO	8344
GENERAL FISH CORP-MONTEREY	5649
GHIO SEAFOOD PRODUCTS	8904
GHIO SEAFOOD PRODUCTS	8904
GHIO SEAFOOD PRODUCTS	8904
GLOBAL	6309
GLOBAL FROZEN FOODS-HUN.BCH, LA	7146
GOLD NUGGET	6849
GRADER FISH CO.	2490

MARKET NAME	MARKET CODE
GREAT PACIFIC FISH CO.	21
GRUNION RUNNER-SANTA BARBARA	6486
HANK ALLEN SEAFOOD DIST.-APTOS	5607
HARBOR FISH & MEAT MARKET	4658
HARBOR REST.	6482
HARBOR SEAFOOD	6482
HARBOR SEAFOOD	9056
INDEPENDENT FISH CO. INC.	7816
INDEPENDENT FISH CO. INC.	7816
J & D	78
KANLOA-SANTA BARBARA	72
KUBA	8308
L.A. FISH & OYSTER	7818
LEONG KUBA SEA PRODUCTS	8308
LEONG-KUBA	8308
LIGHTHOUSE	46
LIGHTHOUSE SEAFOODS- GROVER CITY	6417
M.B. SEAFOODS	52
MEREDITH FISH CO.	2891
MEREDITH FISH CO.	3419
MERIDIAN	73
METRO FOOD SERVICE	3
MONARCH SEAFOOD INC.- L.A.	7941
MONTEREY FISH CO,INC.-OAKLD,BERK	5019
MONTEREY FISH CO,INC.-SF,SEASIDE	5019
MONTEREY FISH CO.	5612
MONTEREY FISH MARKET	4312
MONTEREY FISH MARKET	5612
MONTEREY FISH MARKET-MONT. PARK	7871
MONTEREY FISHERIES	5612
MONTEREY SEAFOOD	5612
MONTEREY SEAFOOD- S.P.	7460
MORRO BAY CO.	48
MORRO BAY SEAFOODS	48
MOSS LANDING FISHERIES	5937
NEWPORT SHRIMP CO.-OREGON	2320
NOMARKET	0
NORM'S LANDING FISH MARKET	7393
NORTHWEST SEAFOOD	6290
OCEAN FISH CO -SAN PEDRO	7819
OCEAN FISH CO -SAN PEDRO	7819
OCEAN FISH CO -SAN PEDRO	7819
OCEAN FISH CO -SAN PEDRO	7819
OCEAN STAR	50
OCEAN STAR	56
OCEAN STAR S.F.- S.F.,BELLINGHAM	4393
OCEAN STAR SEAFOOD-S.P., WILMING	7295
OCEAN TRADERS	4755
OCEAN TRADERS	4755
OLD SANTA BARBARA FISH CO. INC.	6917
OLDE PORT FISH CO. INC.	6803
OXNARD BAIT FARM	30588
PACIFIC CAVIER INC.	4448
PACIFIC FISH	7015
PACIFIC FISH RUNNER	8600
PACIFIC PAN- CARLSBAD	63
PACIFIC PRODUCER INC.	71
PACIFIC SEA PRODUCTS-L.A.	68
PACIFIC SEAFOOD-L.A.	67
PACIFIC SHELLFISH-MORRO BAY	6412
PACIFIC SHELLFISH-SAN DIEGO	8289
PAFCO-VENTURA	59
PENNINSULA SEAFOOD	61
PEOPLES FISH CO.	8909
PEOPLES FISH CO.	8909
PETERSON SEA FOODS INC.	2714
PIER POINT FISH CO.	76

Table 4. (Continued)

MARKET NAME	MARKET CODE
PIERCE FISHERIES INC.	6789
PIERPONT FISH CO.	76
PIONEER FISHERIES	7820
PIONEER FISHERIES	7820
POINT LOMA SEAFOOD	69
POINT ST GEORGE FISHERIES INC.	4676
POINT ST GEORGE FISHERIES INC.	4676
PORT SAN LUIS (PSL)	6288
PRODUCERS SEAFOOD-OAKLAND	4244
QUALITY	12
QUALITY MARKET	32
QUALITY PACK-L.A.	14
QUALITY PACK-MORRO BAY	14
QUALITY PACK-WILMINGTON	14
QUALMANS	51
QUALY PAK SPECIALITY FDS. INC.	7688
QUALY PARK	60
R.T.I., INC.-L.A.	33
REGAL SEAFOOD CO.	5631
ROMINES, WILLIAM R	6299
ROMINES, WILLIAM R	6299
ROMINES, WILLIAM R	6299
ROYAL PACIFIC SEAFOOD CO. INC.	8717
ROYAL SEAFOODS INC.TER	5817
RUSTYS	6464
S TRINGALI & SONS INC.	5019
SACCIOS SAN DIEGO FISH	58
SAN DIEGO SEAFOOD	8259
SAN FRANCISCO FISH	47
SAN FRANCISCO SEAFOOD	31
SAN FRANCISCO SEAFOOD EXPRESS	41
SAN PEDRO FISH MARKET & REST.	7990
SANTA BARBARA SHELLFISH	6448
SANTA MARIA SEAFOODS (PSF)	6283
SCHNAUBELT FISHERIES	2751
SCHOLLETTI BROS (?)	30
SEA FRESH SEAFOOD	6148
SEA PRODUCTS CO.	5004
SEA PRODUCTS CO.	5004
SEABREEZE YACHT CENTER	4465
SEABREEZE YACHT CENTER	4465
SEABREEZE YACHT CENTER	4465
SEAFOOD ENTERPRISE	6963
SEAFOOD EXPRESS	20
SEAFOOD MARKET & REST.-DEL MAR	74
SEAFOOD SPECIALITIES	6844
SEAFOOD SPECIALITIES	6844
SEAWIND	70
SFC (SEAFOOD SPECIALITIES?)	26
SHAMROCK SEAFOODS INC.	7333
SHAMROCK SEAFOODS INC.	7333
SHAMROCK SEAFOODS INC.	7333
SHELLFISH CO.	9
SHELTER ISLAND	77
SMOKY BBQ FISH CO.	7694
SMOKY BBQ FISH CO.	7694
SOUTHERN CALIF SQUID CO.	7704
SOUTHERN CALIF SQUID CO.	7704
SOUTHERN CALIF SQUID CO.	7704
SPORTSMAN SEAFOODS	8178
STANDARD	7821
STANDARD SEAFOOD	7821
STAR FISHERIES INC.	7804
STARKIST DOCK	49
STATE FISH CO. INC.	7857
STATE FISH CO. INC.	7857
STATE FISH CO. INC.	7857
STATE FISH CO. INC.	7857
STATE FISH CO. INC.	7857
STATE FISH-SAN PEDRO	7857
STELLAR FISH CO. INC.	8914
STELLAR FISH CO. INC.	8914
SUN HARBOR INDUSTRIES	8172
SUN HARBOR INDUSTRIES	8172
TERMINAL ISLAND ICEHOUSE	7949
TOM LAZIO FISH CO. INC. #2	2342
TOMICH BROS FISH CO. INC.	7803
TOMICH BROS FISH CO. INC.	7803
TOMICH BROS FISH CO. INC.	7803
TRADER (MORRO BAY)	8
UNIVERSAL PACKERS CORP.	6060
UNKNOWN	37
UNKNOWN	55
UNKNOWN	65
UNKNOWN	66
UNKNOWN	4631
UNKNOWN	6488
UNKNOWN	6512
UNKNOWN	81092
VAN CAMP SEA FOOD CO.	8179
VAN CAMP SEA FOOD CO.	8179
VAN CAMP SEA FOOD CO.	8179
VENTURA SEAFOOD SP.	6844
VILLAGE G STREET	8364
WASHINGTON FISH & OYSTER CO.	9007
WAYMAN-VENTURA	6982
WORLD FISH WEST	54

Table 5. Gill Net Vessels and CDF&G Boat Numbers

BOAT NAME	BOAT NUMBER	BOAT NAME	BOAT NUMBER	BOAT NAME	BOAT NUMBER	BOAT NAME	BOAT NUMBER	BOAT NAME	BOAT NUMBE
	38074	BENTO	27654	CINDI KATE	30937	ELLY M	38676	HIGH-N-DRY	21049
2ND MATE	30245	BERIT LEIGH	35549	CINDIKATE	30937	EMERALD SEA	36884	HM	26233
4 DAUGHTERS	3258	BETSY M	29772	CINDY FAY	34053	EQUALIZER	32548	HOE D HAI	7657
A A BARANOV	12503	BEV A	38286	CINDY J	34349	ERIN B	39112	HOLY FAMILY	3515
AARDVARK	35276	BIG CHARLIE	20758	CLASSIC	39066	ESPADA	4900	HONKER	27661
ADRIATIC II	36445	BIG JOHN	27089	CLOUD 9	30391	ESPADA	34900	HONKI TONK LADY	35544
ADVENTER	36010	BIG NIPPER	22669	CLOUD NINE	30391	ESPOUSA	18725	HOOKER	32716
ADVENTURE	36010	BIMBO	34650	CLYDE	30330	EVIL SPIRIT	36299	HORIZON	31459
AGGRESSOR	35972	BINGO BABY	39168	COD PIECE	26371	FAITH	31276	HORIZON	35207
AGITATOR	14524	BIRD DOG	38921	COLUMBA	8747	FARE THEE WELL	38379	HORIZON	39389
AGUA MAR	31332	BLAZER II	34162	COLUMBAN	32986	FAT ALBERT	15027	HULA GIRL	30762
AGUERO	20774	BLUE FIN	12608	COMPROMISE	35159	FELIX	30129	HUNTRESS	15144
AHI	36079	BLUE GOOSE	18361	COQUETTA	2671	FELUCCA	19383	HURRICANE	3570
AHI	40032	BLUE STAR	35537	CRITTERS	39518	FILIBUSTERO	30858	II LIFE	15920
AIMEE DEE	18463	BLUEFIN	9804	CRYSTAL SEA	14847	FINESSE	39081	II LIFE	37812
AKU AKU	35032	BOAT	36768	CURLYN	9328	FINEST KIND	31812	ILLINI	23264
ALETHEA	20706	BOBBY C	23968	CUTTY SARK II	21174	FINIS	29109	INTREPID	19341
ALIATTO BROS	39164	BOLD TIMES	35562	D J	22580	FISH TICKET	15085	INTRUDER	21142
ALISON WAY	39762	BONITA	19206	DAISY II	36855	FISHERMAN	9509	INVADER	24447
ALL STAR	11090	BONNIE MARIETT	35831	DAMELA SUE	8353	FLORA	8808	INVITATION	26039
ALLIANCE	38002	BRIGADOON	25542	DANANG II	35439	FLORA G	14433	IRON MONSTER	31528
ALMETTA E	19907	BRIGANTINE	35460	DANCIN BEAR	19692	FLORENCE	32483	ISABELLA	13397
ALOHA	7783	BROAD BILL	3399	DARLA B	10595	FLY N HI	15778	J-BIRD	28621
ALOUETTE	18932	BRONZEBAK	10467	DARLENE	12451	FLY-N-HI	15778	JACK HOANG	40294
ALTA C	24604	BUFFALO HUNTER	8211	DE BRUM	38209	FLYER	2525	JACKIE BOY II	27834
AMBER DAWN	22992	BUFFALO HUNTER	34264	DEANNA LIN	39440	FLYING CLOUD	20597	JACKIES JOINT	36768
AMERICAN STAR	1335	C ROAM ANCE	36274	DEANNA T	39440	FORTUNA	21346	JACKY BOY	23928
AMERICO	4939	C ROAMANCE	35483	DEBBY S	38298	FORTUNA	24382	JACKY BOY	23978
AMIGO	27256	C-ROAM-ANCE	36274	DEBIPAT	34551	FOUNDATION	31235	JACOBOB	8211
AMY LYN	31251	CAJUN	25868	DEBORAH ANN	37780	FOUR DAUGHTERS	3258	JACQUELYN	33828
ANA MARIA	33732	CALIF MAID	7755	DELA	12690	FOXY LADY	21553	JALAMA	40790
ANDIAMO	35524	CALIF REPUBLIC	9220	DESEREE	30347	FOZ	32424	JAMA - JANN	2588
ANGELINA	756	CALIFORNIA	33623	DESPERADO	12082	FRANCES A	115	JANNEKE E	34686
ANGLER	1770A	CALOGERA	34725	DEVIN K		FRANKIE BOY	11898	JANUS	33719
ANNA E	38028	CAM RANH	3912	DIAMOND JIM	9220	FROG	39670	JAQUELYN	33828
ANNE ANA	38532	CANTA MAR	37526	DIANA M	23327	GABE	6612	JB	2570
ANNETTE MARIE	4550	CAPAZ	36847	DIANE SUSAN	37800	GALAPAGOS	22603	JEAN MARIE	13198
ANNETTE MARIE	22132	CAPE MALA	31096	DIVER	29332	GALLIVATER	21975	JENINO	2182
ANTOINETTE W	33787	CAPRICE	21556	DOLDCOAST	35101	GAYLE	20026	JENINO	21282
ANZUELO	26012	CAPT CRUNCH II	36590	DOLPHIN II	37872	GENDA	3587	JENINS	2182
AQUERO	20774	CAPT MT	35779	DOMINION	38744	GENOA	3587	JITANA	22243
ARGON	35157	CAPT NINO	29978	DONALD A KUSAR	10221	GERONIMO	7744	JO ANN	31301
ARIES	31651	CAPTAON CHAU	38988	DONNA H	39194	GIACONDA	9822	JOHN VO	38460
ARISTA	24316	CARDINALE I	37902	DONNA LYNN	26657	GINA LISA	28386	JOHNNY A	9890
ARMERICO	4939	CARLEEN N	38998	DONNA ROSE	27531	GIUSEPPINA	6395	JOLENE	29788
ARRIBA	31883	CAROL C	24359	DORIC	5316	GLORIA MARIE	14491	JONATHAN N	38260
ASHLYNE	26805	CAROL J	20710	DORSAL	25899	GOLD COAST	1392	JUDY	22177
ATHENA	33597	CAROL LEE	27458	DOTTY D	32056	GOLD COAST	35101	JUDY LEE	3655
ATHENA	35593	CAROLYN J	3125	DOUBLE D	27903	GOOD NEWS	35546	JULIA MARIE	12927
AURELIA	30958	CAROLYN L	20735	DOWNTOWN	20662	GOS D	23946	JULIE DEE	20344
AUTHORITY	35841	CAROLYN SUE	39243	DRAMBUIE	34141	GRACIAS	40517	JUMPING BEAN	1617
AUTUMN STAR	34990	CASPER BOY II	1483	DRAMBUIE	39459	GRAN STAN	30747	JUMPING BEAN	16170
AVE MARIA	5204	CATHERINA G	10063	DRY MARTINI	18270	GRAND SLAM	39590	JUMPING BEAN	16175
AVISPA	27698	CATHERINE E	160	EAGLE	535	GUISEPPINA	6395	K.T.	30245
AVRIE	28191	CHARLOTTE V	16740	EAGLE	20251	GUSTO	7565	KACHINA	14507
B. J.	14433	CHASER	34884	EAGLE B	2451	H M	26233	KAREN LEE	33849
BABY JOE	16073	CHELOVITA	31668	EAGLE SEA	38164	H.M.	26233	KAREN MARIE	30572
BAFA BOUNCER I	38637	CHIEF	20301	EAGLE'S PRIDE	13909	HAI DUONG	39258	KARLA D	33681
BAJA BOUNCER	38637	CHIEF	36905	EAST OCEAN	39349	HAI LONG I	37831	KATH ANNE	7111
BAJA BOUNCER I	38637	CHIKAMIN		ECLIPSE	15085	HAI THUAN	37846	KATHERINE	38323
BAJA ONE	32973	CHILI PEPPER	26122	EDNA LUELLA	30797	HAPPY HEATHEN	15861	KATHERINE T	32677
BALBOA	3631	CHRIS DE	36577	EILEEN D	7644	HAPPY KANAKE	19823	KATHERYN ANN	37220
BANDIDO	21407	CHRISDE	36577	EL CASADOR	8962	HAPPY LANDING	6710	KATHRYN	32722
BARBARA ANNE	21684	CHRISFI	41236	EL JEFE	36279	HEATHER B	23243	KATHY ANNE	7111
BARBARA H	36904	CHRISTOPHER R	31928	EL POBRE	19998	HEATHER B	23273	KATHY G	7362
BARBARA MARIE	13391	CHULA	19419	EL SOLE	2445	HELGA	22576	KATHY JEANNE	16474
BASIL BOY	19588	CHULA	21560	ELEANOR MARIE	33180	HELJA	28414	KATIE MAE	35908
BE LE	22267	CHUPU	24240	ELINDA	8351	HENRIETTE	2835	KATRINA	39792
BELUGA	25841	CIBOLA	21968	ELIZABETH ANN	39974	HIEP THANH	37830	KATRINKA	31144
BELUGA	25846	CICCO II	16387	ELLIS H	15226	HIGH SCOOTER	34971	KATTY ANNE	711

Table 5. (continued)

BOAT NAME	BOAT NUMBER	BOAT NAME	BOAT NUMBER	BOAT NAME	BOAT NUMBER	BOAT NAME	BOAT NUMBER	BOAT NAME	BOAT NUMBER
KATTY ANNE	7111	M&M SPECIAL	31922	MOONSHADOW	32538	PATRIOT	29631	ROSE	6043
KAY D	10616	MAGELLAN	36208	MOONSHINER	31714	PATTY ANN	2410	ROSELINA MARIE	34388
KEY LARGO	32284	MAGGIE M	36766	MOONSHINER	31741	PATTY JO	30767	ROYAL DAWN	21819
KHANH HOA	40197	MAGIC	28105	MORNING STAR	25493	PATTY V	28687	RUN A WAY	27818
KIEN GIANG 10	38065	MAGIC	31399	MORNING SUN	36793	PAULA ANN	35341	RUTH K	29946
KIEN GIANG 9	39396	MAJESTIC	22574	MS AMY	32211	PAULINE	4706	RUTH K	29964
KILDEE	7267	MAKAI	25567	MURPHY'S LAW	39181	PAY-OFF	2386	RUTHIE B	25555
KINGDOM	22101	MANDY	5993	MY PHU	40550	PAYOFF	2386	S FRAGILANO	32485
KISMET	26195	MARANATHA	32211	MYA	36503	PAYOFF	34545	SAFARI	34464
KITTY LEE	7585	MARGARET O	33028	MYRYE	39139	PEARL C	20227	SAIGON I	10677
KOINONVIA	39309	MARGARET O	33028	N Y	4996	PELICAN	38706	SAINT ANN	39897
KPROCALO	24508	MARGO	17381	NANCY	8724	PESCADOR	15494	SAINT JO	27121
KUSAR	10221	MARGOT	17381	NANCY JEAN	6755	PETREL	26361	SAL C	2457
KVINS	30134	MARIA		NANCY L	31551	PHANCY N 4	36234	SALIE BOY III	30172
L'ESPADON	32134	MARIA	9794	NATIVE DANCER	35124	PHANTON	28812	SALLY II	36111
LA DOLCE VITA	1431	MARIA	38646	NEKAS	7659	PHUKHANH	35598	SALLY III	16499
LA DONNA	34384	MARIA ELENA	33478	NELLIE	27298	PICADOR	32590	SALTY	8536
LA GORDA	33709	MARIA FATIMA	26491	NEW BREED	19159	PICCOLA	35559	SAMMY J	28026
LA TINTA	27728	MARIA JOANNA	7440	NEW HORIZON	32145	PIEFACE	1139	SAN AGUSTINE	27713
LA VITA	29148	MARIA JOSETTE	3083	NEW HORIZPN	32145	PILIKA	36958	SAN CHRISTOFOR	39618
LADY ANN	26916	MARIA JOSSETTE	3083	NEW STAR	39231	PILIKIA	36958	SAN JOSE	39405
LADY ANNE	23286	MARIA MADRE	23296	NEW STAR II	2464	PISCES	34	SAN PEDRO BOY	18590
LADY B	32481	MARIA T	22128	NEW START II	2364	PLATO	99999	SAN TOY	8847
LADY LAURA	27889	MARIAH	37704	NGOC DAY IV	38260	POLARIS	2648	SAN VITO	27882
LADY V	31571	MARILYN J	22433	NGOC THUY	27527	POMPANO	24762	SANCHO TOO	23276
LANCER	37064	MARILYN O	33613	NHA TRAN	33133	PORT ROYAL	8717	SANDY NGU	34903
LANDY ANN	26916	MARINA	17629	NHA TRANG	27710	PRIORITY	31311	SANTA LUCIA	2637
LANGOSTA II	16419	MARITIME	29029	NHA TRANG 1	29999	PROCAL	24508	SANTA LUCIA II	9409
LAST CHANCE	39872	MARKET GIRL	15891	NHAT TRI	13121	PROCALO	24508	SANTA ROSA	35791
LAURA ANN	3938	MARRY ANN L	29845	NICKELDEON	39259	PROSPECTOR	34578	SANTA ROSALIA	36410
LAURA ANN	28191	MARY ANN	5367	NICKY LOU	34792	PTTU CUONG I	37496	SANTO VITO	38291
LAURA J	34928	MARY ANN C	30608	NICOLA J	35133	QUERIDA	19129	SARA JANE	9311
LAURA MICH	27452	MARY ANN L	29845	NIGHT STALKER	16612	QUERIDA	32850	SARAH	30837
LAURA MICHELLE	27457	MARY BETH	17466	NIGHTWIND	37353	QUI NHON	21487	SAVAGE I	35650
LESLIE ANNE	39544	MARY F	17031	NINA GC	37246	QUICK SILVER	20606	SCORPIO	22959
LIBERTAD	99999	MARY HELEN	20466	NO NAME	29562	R VADER	13377	SCOTTY	3399
LIBRA	30674	MARY J	37881	NO NAME	38074	RACHELLE	14433	SCOUT	36838
LINDA	21279	MARY K	8314	NONE	40409	RAE ANN	15896	SEA	1663
LINDA C	16034	MARY L	17657	NORTH STAR	4687	RAG DOLL	38502	SEA + SEA	35276
LINDA JEAN	31699	MARY NOEL	33441	OCTOPUS	21084	RAIDER	13967	SEA BEAR	38223
LINDA ROSE	34470	MARY VINCENT	36106	ODYSSEY	38286	RAMBLING ROSE	21209	SEA BIRD	12744
LINDE	36135	MAVERICK	35951	OGENIO	2458	RAMBUNCTIOUS	35770	SEA BOY	27607
LISA MARIE L	40192	MEGA	35250	OLD SPICE	7214	RAMONA	3644	SEA BROS	37382
LITTLE A	26478	MELINDA	15717	OLINKA	25318	RAMPAGE	30826	SEA BROTHERS	37382
LITTLE B	36785	MELISSA G	40190	ORCA	16720	RANDIDO	21407	SEA DOXY	1799
LITTLE RICHARD	14436	MERCURY	37976	ORCA	23197	RANGER	24670	SEA EAGLE	
LITTLE RITA	21853	MERRY CHASE	20362	ORION	13377	REAL DREAMER	39673	SEA FARMER	25046
LITTLE TIM	21350	MERVA W	19980	OSAGE	28165	REBECCA JANE	24739	SEA GATE	35611
LOCAL BANKS	37124	MESS HAUL	21109	OSPREY	26621	RED BARON	39785	SEA HAWK	37267
LOCOCO BROS	6360	MICAH	3718	OSPREY	32972	REEL GEORGE	24325	SEA HORSE II	21055
LOCOCO BROS	28803	MICHAEL B	33030	OUT BREAK	39175	REEL GRACE	24325	SEA HORSE II	21550
LOCOCO SONS	25555	MICHAEL I	33182	OUTSIDER	35679	REELINE	36234	SEA HUNTER	2999
LOIS ANN	24808	MIDORI	31252	PACIFIC HUSKY	27086	REGINA	7649	SEA HUNTER	19607
LOIS B	31554	MINDEE J	39694	PACIFIC LINES	37838	RELEASE	35001	SEA LOUISE	21550
LONNIE KAY	37136	MINEO BROS	40703	PACIFIC PRIDE	13636	REMORA	9744	SEA MADNESS	33003
LOOKOUT	35983	MINH HIEN KG	3517	PACIFIC RAIDER	782	RENABEL	4929	SEA N SEA	35276
LORA ANN	28191	MIRAGE	37174	PACIFIC SUN	24723	RENEGADE	23045	SEA QUEEN	29505
LORATT	26188	MISS ALISON	29728	PAGURUS	39399	RESTLESS C II	38355	SEA RAIDER	27067
LORETTA MARIE	8558	MISS CHARLENE	26478	PAICIFIC FIN	29153	RETREAT	3984	SEA STAR	26844
LORI LYNNE	20722	MISS JESSICA	35659	PALISADES	40119	REVIVAL	31685	SEA TRADER	29245
LORRIE J	35505	MISS LINDA	40924	PALOMAR	9282	RITA MARIE	37988	SEA VISION	21505
LOUISE	30608	MISS MARIN	31906	PALON	2109	ROBERTA GRACE	21753	SEA WHISKERS	29708
LU MARIE	3020	MISS NGA	40635	PAMELA ROSE	39262	ROGGY	27287	SEA WOLF	18318
LURLYN	9328	MISS ROSE ANN	3245	PAMELA SUE	8353	ROMA	26394	SEA WORLD	28012
LUSTY WENCH	29696	MISS SOFIE	27845	PAMELIA ANA	10416	ROMANCE	1290	SEAPEARL	16906
LYDIA H	22168	MISS TAMMY	15537	PAPI I	33236	ROMERO	31200	SEAWAVE	11256
LYDOREIN	15324	MISSION BELLE	29864	PAPPY	5353	RONNY B	20535	SEAWIND	40459
LYNN MARIE	2728	MISSTRESS	37070	PARTNERS	27662	ROSA MARIA	2848	SEE ALDER	18458
LYSIE LYNN	37128	MISTY LEE	28617	PATIENCE	1111	ROSALENA MARIE	34388	SENHORA ROSARI	37892
M & L	10067	MON AMI	16373	PATRICIA	28573	ROSALIA S	38674	SHAR RON	32951

Table 5. (continued)

BOAT NAME	BOAT NUMBER
SHARKFIN	35984
SHAROM G	35034
SHARON G	35034
SHARRON	23951
SHARRON	32951
SHAWN-E	24168
SHEARWATER	35608
SHELL FISH	18523
SHELLY MARIE	20366
SHILOH	17880
SIX BROS	8956
SKIFF	28573
SKIFF	33537
SKOOKUM	29320
SLIPSTREAM	32467
SMITTY	20710
SMOKEY	5108
SMOKEY	34448
SMOKIT	15199
SOL	26950
SOLVEIG	612
SOLVIEG	612
SONRAY	36767
SPANIARD	4746
SPARTAN	4550
SPEED KING	8271
SPIRIT	33784
ST ANIALLO	24498
ST ANIELLO	24498
ST CHRISTOPHER	41315
ST FRAGIULACO	32485
ST FRANCES	6714
ST GEORGE	1673
ST JAMES	37982
ST JOSEPH	8185
ST PETER	14903
ST. ANN	1686
STACKTON I	13270
STACY C	
STACY LYN	37063
STACY MARIE	38212
STAR	22856
STEEL FIN II	33020
STEPHANIE D	27661
STING RAY	26980
STINGRAY	26980
STORMY II	28618
STROKER	23684
STURGEON	29133
SUMMER WIND	20722
SUN FISH	20876
SUN TRACKER	33080
SUNDOWNER	3549
SUNDOWNER	35495
SUNRAY	36767
SUNRIS I	20989
SUNRISE	178
SUNRISE II	34750
SUNRISE III	39286
SUNSHINE	24055
SUNSHINE	35151
SUSAN R	7231
SUSIE	2344
SUSIE Q	39903
SWORD DANCER	37996
SWORDFISH	2547
T ANN	34443
TAG TEAM	33167
TAMARA	22233
TAMIE MARIE	
TAMMY	13869
TARANTINO JR	4279
TARENTINO JR	4279
TAYLOR MAID	31959
TEAL	33111
TEDDY J	9659
TEKOA	39188
TEMPTATION	36463
TERESA	37828
TERN	21077
THAI BINH	38332
THANH BINH	6532
THANH DUNG	39324
THANH TUNG 2	17592
THE DEALER	31812
THE KID	31803
THERESA B	26844
THERESA C M	36476
THERESA CM	36476
TIBERIAS SEA	34994
TIBURON	36350
TIENSA	38093
TIFFANY VANCE	32402
TINA MARIE	25664
TIPPER	15107
TOM AND JERRY	23295
TOM DAUGHTERS	3258
TOOTUR	37782
TORONADA	39874
TOYAN	28794
TRACY CHERI	30455
TRACYCHERI	30455
TRANCADOR	27490
TRIGGERFISH	34975
TRIONFO	29530
TRIPLE R	33522
TRNONG THANH	37764
TRUDY S	8793
TWENTY GRAND	29948
TWILIGHT	24081
TWO SONS	4099
TWO SONS	20800
TYTAN	39360
UFF DA	31926
UKELELE	32715
UNIONE 1	27622
URSULA B	41130
VALIANT	791
VALIANT LADY	791
VALOPE	32308
VANESSA	35862
VANS LEE	39887
VARIOUS	
VAYA CON DIOS	22127
VEDA L	30969
VENCEDOR	18136
VENEZIA	7495
VIA JERO	35522
VIAJERO	35522
VICTORIA	3209
VICTORIA	30330
VICTORY	8626
VIET LONG	39753
VINCENT K	7988
VINLAND	17313
VITTORIA	3209
VIVIAN M	21396
VOLARE	16410
VOLARE	19410
VULPIN II	39475
W W E	37852
WAE WEE GOE	12715
WAHOO	27068
WASABI	33066
WEAZEL	7773
WESTERLY	15332
WESTERN GATE	40339
WET ONE	18798
WHISKEY FLATS	34406
WIEDA	22744
WILD TIMES	35562
WILLA G	18256
WORLD FAMOUS	20341
WORLD FAMUS	20341
XANADU	35837
XIPHIAS	22728
XUAN NINH	37467
YA-TA-HAY	35204
YELLOWFIN	26801
ZUMA	31826
BASON 3	39890
CECILIA	10292
MAKAH(OR REG.)	40666
NANCY D	27834
SNEAKY PETE	41378
SUSAN M	20710

Table 6. Quality Codes

	QCOD1	QCOD2	QCOD3	QCOD4	QCOD5	QCOD6	QCOD7
CODE	BOATNO/LANDATE	LENGTH	LOCATION	GEAR	SPECIES	WEIGHTS	LANDING
0	BOATNO FROM MSS	CORRECT LENGTH FROM MSS	ONE CDF&G BLOCK USED TO GET POSITION	GEAR FROM MSS	SPECIES FROM MSS	SAMPWT, LANDWT FROM MSS	PORT & MARKET FROM MSS
1	BOAT NAME KNOWN BOATNO NOT KNOWN	LENGTH UNUSUALLY SMALL	2 BLOCKS GIVEN ON MSS	GEAR TYPE INFERRED FROM SPECIES GIVEN	SPECIES CHANGED BY CDF&G EDITOR	SAMPWT FROM MSS LANDWT FROM LANDING DATA	PORT FROM MSS, MARKET FROM LANDING
2	FISH FROM ANOTHER MARKET OR TRUCKED IN	LENGTH UNUSUALLY LARGE	3 OR MORE BLOCKS GIVEN ON MSS		RECORD ADDED BY NMFS EDITOR	SAMPWT =LANDWT BOTH FROM LANDING DATA	MARKET FROM MSS, PORT FROM LANDING DATA
3	BOATNO FROM LANDING DATA	LENGTH & WEIGHT DON'T CORRELATE	LAT + LONG FROM MSS			SAMPWT CHANGED BY NMFS EDITOR	MARKET & PORT FROM LANDING
4	FISH MIXED FROM 2 OR MORE BOATS	LENGTH CHANGED BY EDITOR	CDF&G BLOCKNO OR POSITION FROM LANDING DATA			SAMPWT NOT REP. OF TOTAL FISH SAMPLED, LANDWT FROM LAND DATA	LANDED FISH AT >1 MARKET; PORT FROM LAND DATA
5	NO MSS AVAILABLE	FISH DAMAGED				SAMPWT NOT REP. OF TOTAL FISH SAMPLED, LANDWT FROM MSS	LANDED FISH AT >1 MARKET; PORT FROM MSS
6	LANDING DATE FROM LANDING DATA					SAMPLE WEIGHTS ROUNDED BY CDF&G SAMPLER, LANDWT FROM LANDING DATA	
7 8							
9	SOURCE OF FISH UNKNOWN	LENGTH UNKNOWN	CATCH LOCATION UNKNOWN	GEAR USED UNKNOWN	SPECIES UNKNOWN	SAMPWT & LANDWT UNKNOWN	PORT & MARKET UNKNOWN

FOR LENGTH=0 QCOD2=9
FOR BLOCKNO=0 OR LAT+LONG=0, QCOD3=9
FOR GEAR=0 QCOD4=9
FOR SAMPWT, LANDWT=0 QCOD6=9
FOR PORT=0 AND MARKET=0, QCOD7=4 OR 5 OR 9

LANDATE = LANDING DATE
MSS = MARKET SAMPLE SHEET
CDF&G = CALIFORNIA DEPARTMENT OF FISH & GAME
MARKET = MARKET CODE
PORT = PORT CODE
SAMPWT = SAMPLE WEIGHT
LANDWT = LANDING WEIGHT

Table 7. Size Codes and Corresponding Dimensions

SIZE CODES LISTED BY SIZE

SIZE CODE	LAT DEG	LAT MIN		LONG DEG	LONG MIN
50		10	X		10
57		10	X		20
56		10	X		30
25		10	X		40
27		10	X		50
77		10	X	1	
84		10	X	1	30
34		10	X	1	50
89		10	X	3	30
75		20	X		10
67		20	X		20
51		20	X		30
46		20	X		40
22		20	X		50
21		20	X	1	
32		20	X	1	20
62		20	X	1	30
63		20	X	1	40
69		30	X		10
53		30	X		20
52		30	X		30
55		30	X		40
59		30	X		50
85		30	X	1	
23		30	X	1	10
49		30	X	1	30
39		30	X	1	50
47		30	X	3	
78		30	X	4	30
19		40	X		20
54		40	X		30
66		40	X		40
24		40	X	1	
26		40	X	1	20
15		40	X	1	50
41		40	X	3	
20		50	X		30
12		50	X		40
17		50	X		50
60		50	X	1	
36		50	X	1	20
37		50	X	1	40
64		50	X	2	20
96	1		X		10
14	1		X		30
5	1		X	1	
13	1		X	1	10
11	1		X	1	30
95	1		X	1	40
8	1			X	2
79	1			X	4 30
31	1	10		X	1
91	1	10		X	1 10
16	1	10		X	1 30
61	1	10		X	2 40
58	1	20		X	30
65	1	20		X	1
38	1	20		X	1 40
92	1	20		X	6 30
68	1	30		X	10
82	1	30		X	1
45	1	30		X	1 30
44	1	40		X	1 20
62	1	40		X	1 50
42	1	40		X	2 40
71	1	50		X	1 10
40	1	50		X	1 40
86	1	50		X	2 40
73	2			X	1 40
7	2			X	2
9	2			X	3
35	2			X	3 30
80	2			X	4 30
94	2	10		X	1 50
43	2	20		X	3 10
74	2	30		X	1 30
81	2	30		X	4
97	2	40		X	1 10
28	3			X	1
76	3			X	2 30
70	3			X	2 30
30	3	30		X	1 30
33	3	30		X	5 30
83	5	30		X	6 30
93	5	50		X	5 50
90	8	30		X	7 30
3	10			X	10
2	10			X	20
40	10	30		X	7 20
4	20			X	20

SIZE CODES LISTED BY SIZECODE

SIZE CODE	LAT DEG	LAT MIN		LONG DEG	LONG MIN
1	5		X	10	
2	10		X	20	
3	10		X	10	
4	20		X	20	
5	1		X	1	
6	5		X	5	
7	2		X	2	
8	1		X	2	
9	2		X	3	
10	1	30	X	2	30
11	1		X	1	30
12		50	X		40
13	1		X	1	10
14	1		X		30
15		40	X	1	50
16	1	10	X	1	30
17		50	X		50
18	1	40	X	1	20
19		40	X		20
20		50	X		30
21		20	X	1	
22		20	X		50
23		30	X	1	10
24		40	X	1	
25		10	X		40
26		40	X	1	20
27		10	X		50
28	3		X	1	
29	4		X	4	10
30	3	30	X	4	
31	1	10	X	1	
32		20	X	1	20
33	3	30	X	5	30
34		10	X	1	50
35	2		X	3	30
36		50	X	1	20
37		50	X	1	40
38	1	20	X	1	40
39		30	X	1	50
40	10	30	X	7	20
41		40	X	3	
42	1	40	X	2	40
43	2	20	X	3	10
44	1	50	X	1	40
45	1	30	X	1	30
46		20	X		40
47		30	X	3	
48	1	30	X	3	30
49		30	X	1	30
50		10	X		10
51		20	X		30
52		30	X		30
53		30	X		20
54		40	X		30
55		30	X		40
56		10	X		30
57		10	X		20
58	1	20	X		30
59		30	X		50
60		50	X	1	
61	1	10	X	2	40
62		20	X	1	30
63		20	X	1	40
64		50	X	2	20
65	1	20	X	1	
66		40	X		40
67		20	X		20
68	1	30	X		10
69		30	X		10
70	3	30	X	1	30
71	1	40	X	3	
72	1	50	X	1	10
73	2		X	1	40
74	2	30	X	1	30
75		20	X		10
76	3		X	2	30
77		10	X	1	
78		30	X	4	30
79	1		X	4	30
80	2		X	4	30
81	2	30	X	4	
82	1	30	X	1	
83	5	30	X	6	30
84		10	X	1	30
85		30	X	1	
86	1	50	X	2	40
87	5		X	20	
88	1	40	X	1	50
89		10	X	3	30
90	8	30	X	7	30
91	1	10	X	1	10
92	1	20	X	6	30
93	5	50	X	5	50
94	2	10	X	1	50
95	1		X	1	40
96	1		X		10
97	2	40	X	1	10
98	5		X	8	

Table 8. CDF&G Gill Net Fishery Market Sample Sheet Microfilm Index

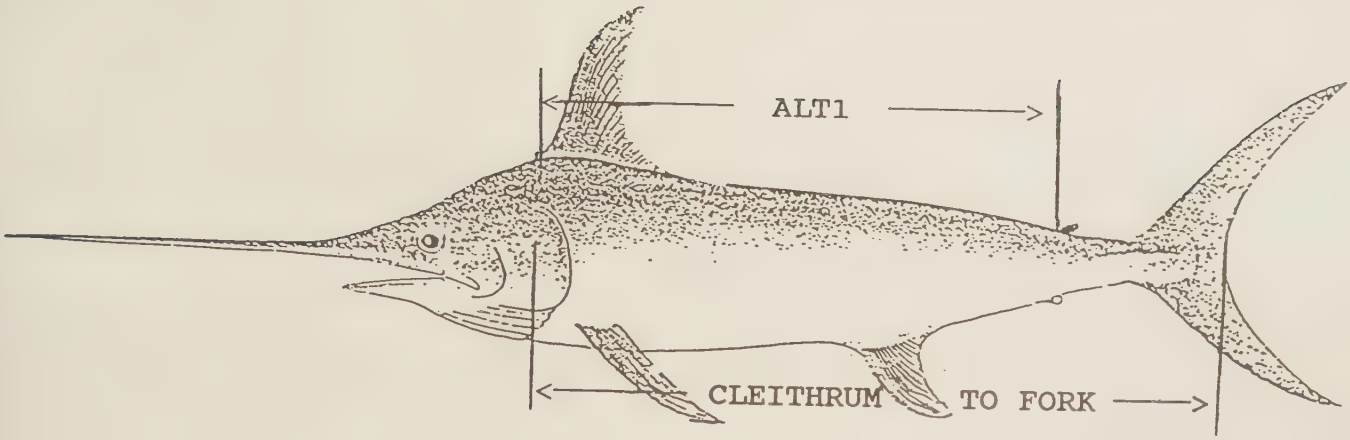
YEAR	ROLL NUMBER	START DATE	START BOAT #	START FRAME #	END DATE	END BOAT #	END FRAME #
1981	1	00/00/81	16034	000006	12/18/81	14903	000127
1982	1	02/15/82	03020	000129	12/14/82	17466	000396
1983	1	01/10/83	17466	000398	12/30/83	29245	000795
1984	1	01/00/84	31252	000797	12/26/84	30572	001224
1985	1	01/04/85	21556	001226	12/30/85	35951	001715
1986	1	01/01/86	30455	001717	12/15/86	02637	002539
1987	2	01/03/87	27458	000006	12/28/87	39890	000489
1988	2	01/04/88	21753	000491	12/23/88	27662	000822
1988(AS)	3	01/04/88	18857	000005	12/30/88	40190	000193
1988	7	03/27/88	30569	000005	12/20/88	303 0	000190
1989	4	01/06/89	36350	000006	12/26/89	37704	000383
1989(AS)	4	02/07/89	38764	000384	03/06/89	34927	000410
1989(AS)	5	01/25/89	35027	000009	11/20/89	40190	000222
1990	6	01/02/90	03020	000005	12/03/90	35207	000213

AS - Angel Shark Length-Frequency Sample Sheets

Table 9. Location Descriptions and Block Numbers

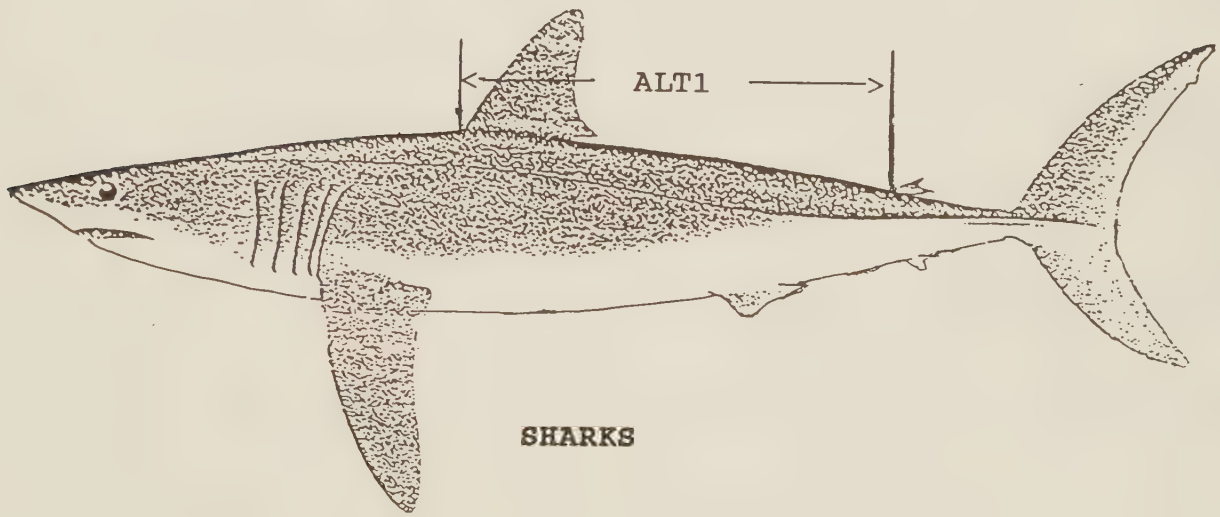
BLOCKNO	SIZECODE	REF POSITION	LOCATION
100	8	41 00N 124 00W	NORTHERN CALIFORNIA
200	7	39 00N 123 40W	NORTHERN CALIFORNIA
300			
400	86	37 10N 122 20W	CENTRAL CALIFORNIA
500	9	35 40N 121 10W	CENTRAL CALIFORNIA
600	80	34 00N 118 30W	SOUTHERN CALIFORNIA
700	79	33 20N 117 30W	SOUTHERN CALIFORNIA
800	79	32 30N 117 00W	SOUTHERN CALIFORNIA
900	3	22 30N 110 00W	MEXICO
1000		00 00N 080 00W	HIGH SEAS
1100	7	42 00N 124 10W	SOUTHERN OREGON
1200	7	44 00N 124 10W	NORTHERN OREGON
1300	7	46 00N 124 00N	WASHINGTON
1400	11	48 00N 124 40W	BRITISH COLUMBIA

LOCATION	POSITION	REF. POSITION	BLOCK SIZE	SIZE CODE	BLOCK #
43-FM SPOT	32 30N 117 50W		20"X 20"	67	882
20' W. PT. LOMA	32 40N 117 30W		10"X 10"	50	862
SAN CLEMENTE	32 40N 118 10W		30"X 40"	55	866
CORTES BANK	32 20N 118 50W		20"X 40"	46	897
SAN NICOLAS	33 10N 119 20W		10"X 20"	57	813
SNTA BARBARA CHNL	33 30N 118 30W		1' X 2'	8	742
DAVIDSON SEAMOUNT	35 43N 122 43W	35 35N 122 35W	20"X 20"	67	568
WA STATE	46 00N 124 00W		2' X 2'	7	1301
SAN JUAN SEAMOUNT	33 00N 121 00W	33 00N 120 50W	20"X 20"	67	(895)
HOKE SEAMOUNT	32 10N 126 55W	32 05N 126 50W	10"X 10"	50	
SOUTHERN CAL	32 20N 117 00W		3'30"X 5'30"	33	
OSBORN BANK	33 22N 119 03W	33 20N 119 00W	10"X 10"	50	764
SANTA BARBARA			10"X 50"	27	652
MEXICO		22 00N 110 00W	10'30"X 7'20"	40	900
SAN DIEGO		32 30 117 00W	40"X 3'00"	41	877
SAN FRANCISCO			1'40"X 2'40"	42	478
SNTA BARB ISLANDS			1' X 2'	8	742
SAN MIGUEL ISLAND				67	712
MONTEREY CANYON				57	517
GUIDE SEAMOUNT	37 00N 123 20W	36 55N 123 15W		50	(545)
MORRO BAY			20"X 10"	75	615



SWORDFISH (Xiphias gladius)

PACIFIC ANGEL SHARK (Squatina californica)



SHARKS

Figure 1. Alternate Lengths

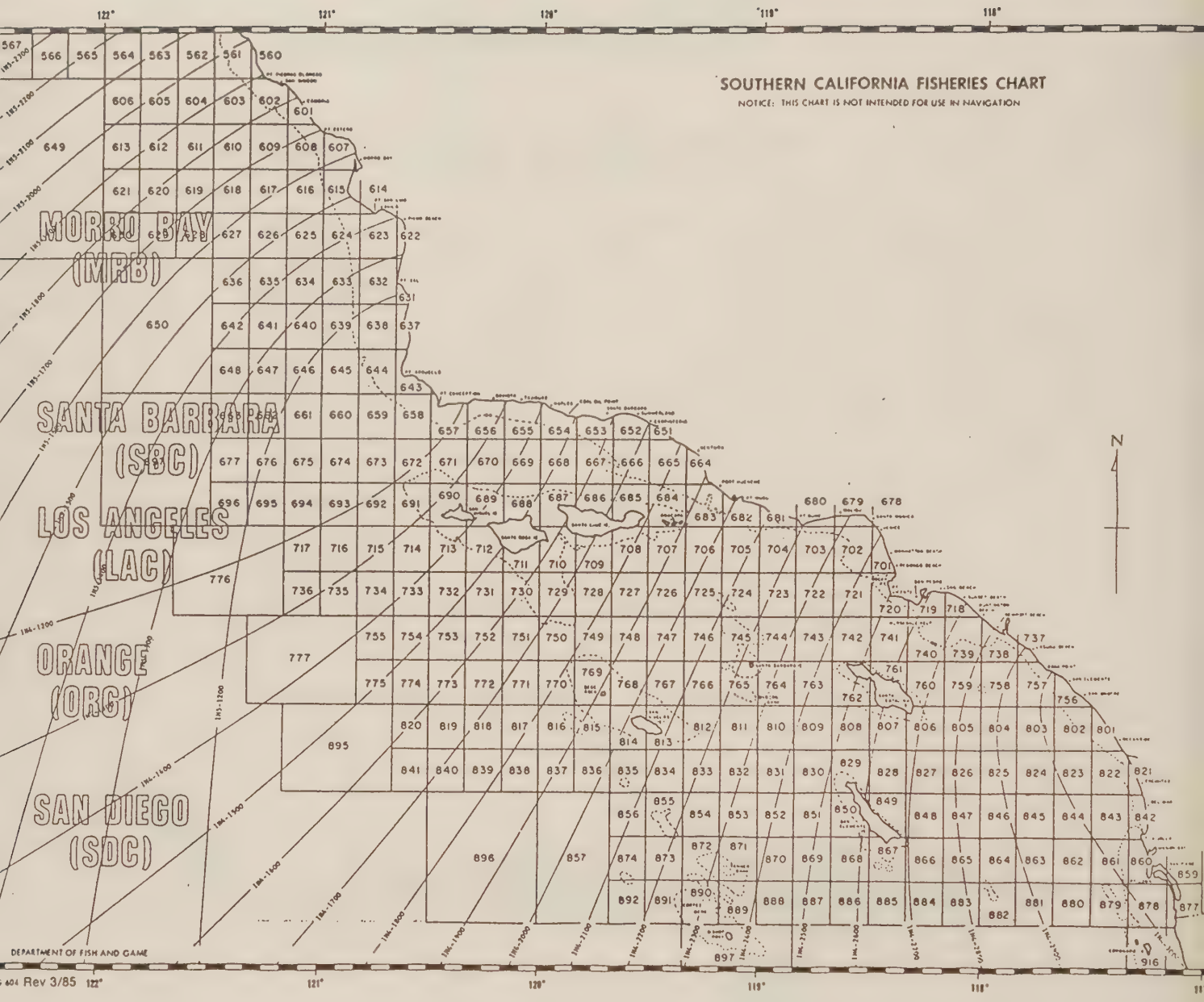


Figure 2. CDF&G Block Locations

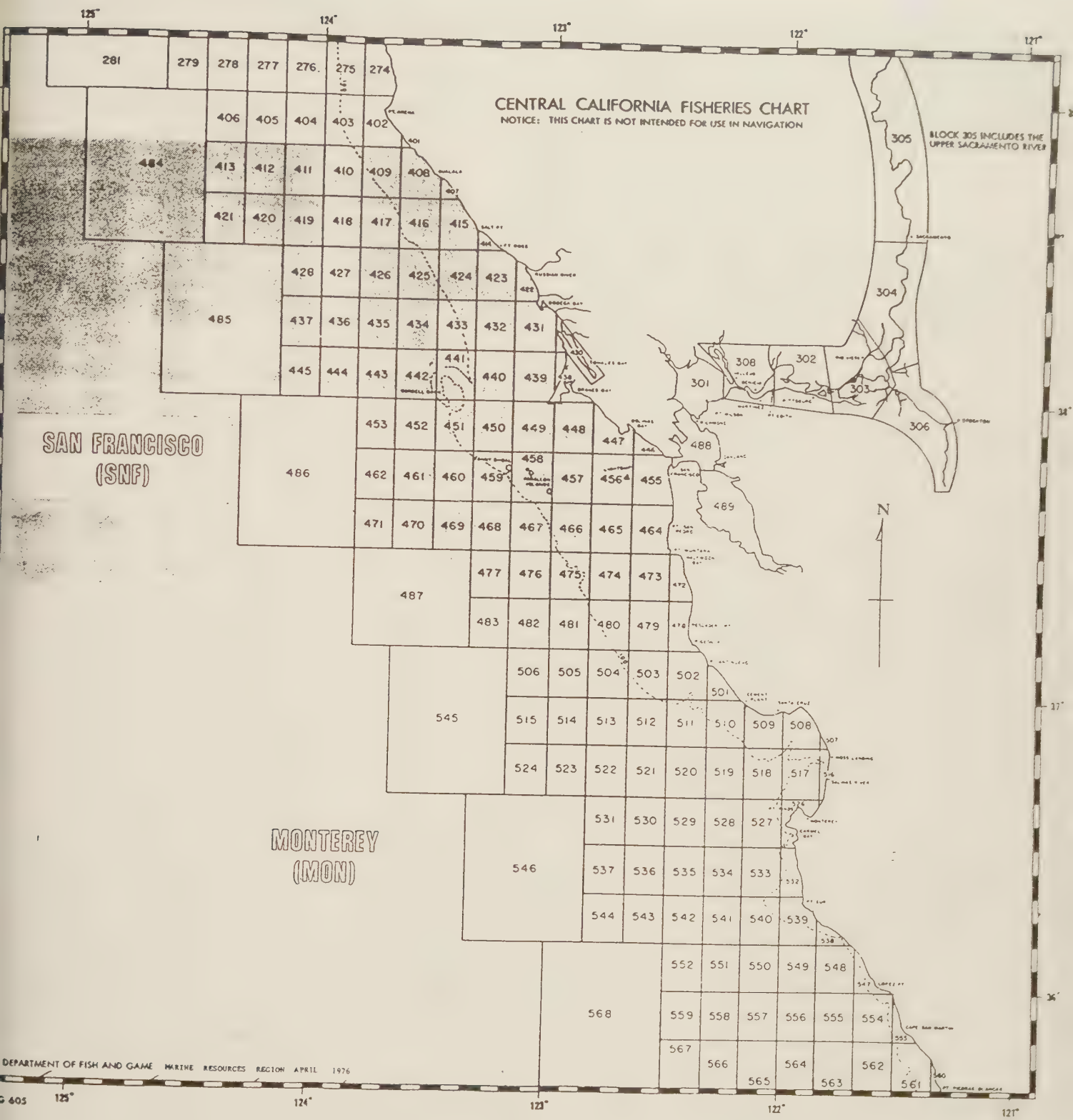


Figure 2. (Continued)

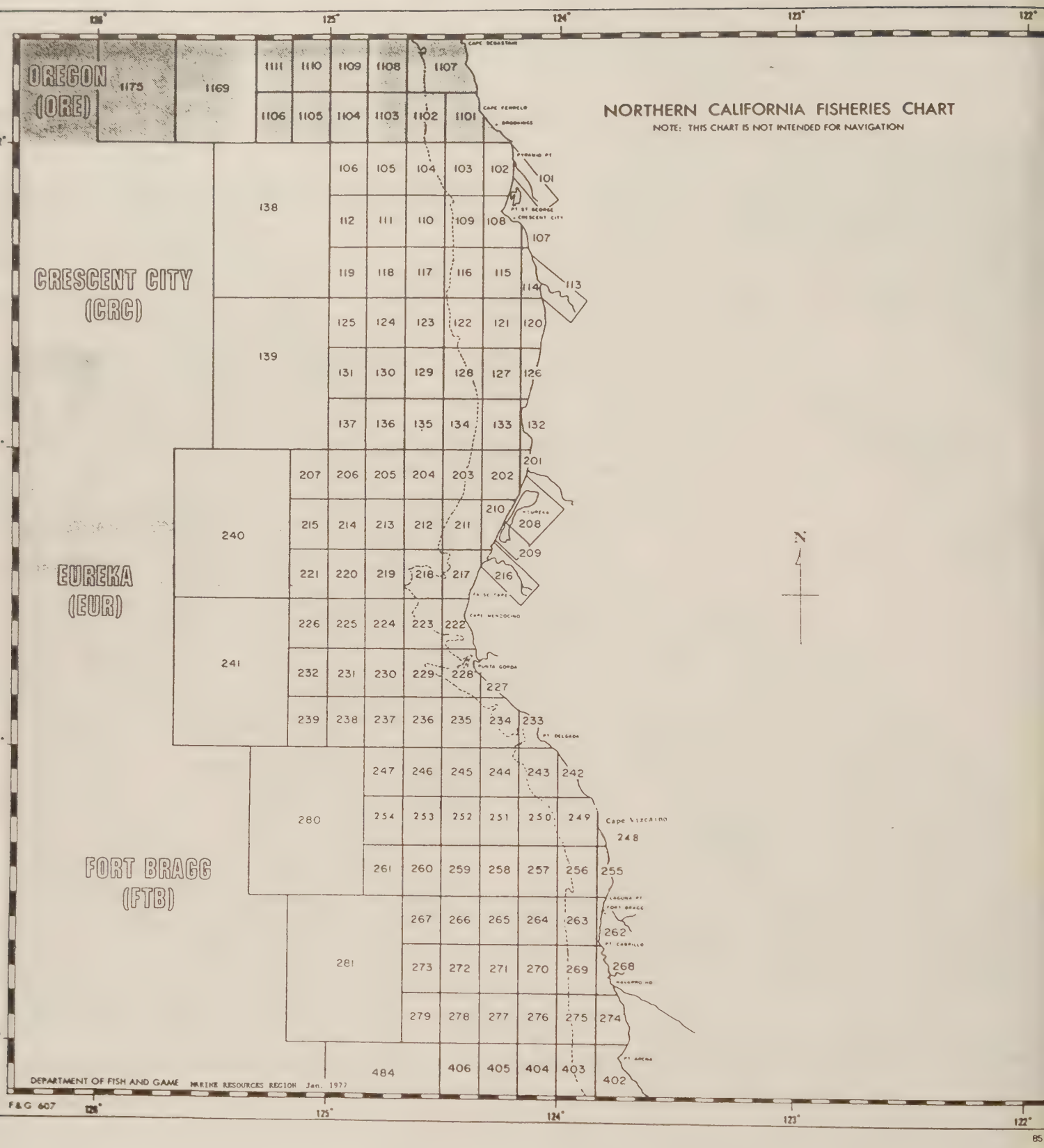


Figure 2. (Continued)

Appendix 1. CDF&G Market Sample Sheets. (Forms used between 1981 and 1989).

THRESHER SHARK/SWORDFISH MARKET SAMPLE SHEET

DATE_____ BOAT_____ F&G No._____

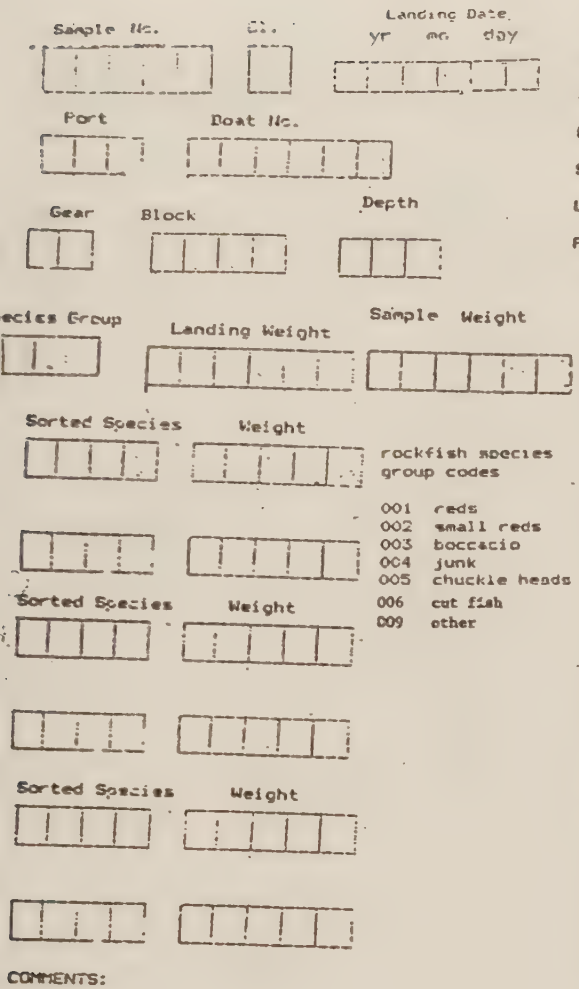
F&G BLOCK #_____ MARKET_____ GEAR_____

No.	TH	SW	ALT. length	WEIGHT Lbs.	No.	TH	SW	ALT. length	WEIGHT	No.	TH	SW	ALT. length	WEIGHT
1					21					41				
2					22					42				
3					23					43				
4					24					44				
5					25					45				
6					26					46				
7					27					47				
8					28					48				
9					29					49				
10					30					50				
11					31					51				
12					32					52				
13					33					53				
14					34					54				
15					35					55				
16					36					56				
17					37					57				
18					38					58				
19					39					59				
20					40					60				

TOTAL NUMBER OF FISH UNLOADED (Tally) Thresher Shark_____

Swordfish _____

Appendix 1. (Continued)



Sample No. _____

Boat Name _____

Port _____

Species Group _____

Landing Date _____

Page No. _____

GEAR CODES

01 Hook and Line
05 Long Line
51 Roller Gear
54 Midwater Trawl
56 Otter Trawl
61 TRAMMEL NET
65 GILL NET, DRIFT NET
66 GILL NET, SET

PORT CODES

604	GAVIOTA
605	PORT HUENEME
606	MORRO BAY
608	OXNARD
609	SAN LUIS OBISPO
611	SANTA BARBARA
613	VENTURA
614	GOLETA
729	MALIBU
730	TORRANCE
733	CATALINA ISLAND
734	SAN CLEMENTE ISLAND
736	LOS ALAMITOS
738	PACIFIC PALISADES
739	SUNSET BEACH
741	AVALON
742	REDONDO BEACH
743	LONG BEACH
744	LOS ANGELES
745	TERMINAL ISLAND
746	WILMINGTON
747	SANTA MONICA
748	NEWPORT BEACH
749	LAGUNA
767	DANA POINT
868	IMPERIAL BEACH
869	MISSION BAY
880	SAN DIEGO
881	POINT LOMA
882	NATIONAL CITY
883	OCEANSIDE
884	CORONADO
885	OCEAN BEACH
886	MISSION BEACH
890	LA JOLLA

SAMPLE NO. _____

SPECIES: _____

LOCALITY: _____

DATE: Y Y M M D D

SAMPLER: _____

Length mm	Weight	Sex

Appendix 1. (Continued)

DRIFT GILL NET FISHERY
MARKET SAMPLE SHEET

DATE _____ BOAT _____ F&G # _____

BLOCK # _____ MARKET _____ PORT _____ GEAR _____

#	Species Code	Alternate Length *	Weight (lbs)	#	Species Code	Alternate Length *	Weight (lbs)	#	Species Code	Alternate Length *	Weight (lbs)
1				21				41			
2				22				42			
3				23				43			
4				24				44			
5				25				45			
6				26				46			
7				27				47			
8				28				48			
9				29				49			
10				30				50			
11				31				51			
12				32				52			
13				33				53			
14				34				54			
15				35				55			
16				36				56			
17				37				57			
18				38				58			
19				39				59			
20				40				60			

TOTAL NUMBER OF FISH UNLOADED:

* On Opah use fork length

091	SWORDFISH	_____	155	COMMON THRESHER	_____
151	BONITO SHARK	_____	097	BIGEYE THRESHER	_____
467	OPAH	_____	098	PELAGIC THRESHER	_____

Appendix 1. (Continued)

COMMERCIAL GROUNDFISH MARKET SAMPLES

Boat Name: _____ Landing Date: M M - D D - Y Y

Boat # [ ][ ][ ][ ] SPS Code [ ][ ][ ] Port Code [ ][ ] F&G Block # [ ][ ][ ]

Depth (fa.) [ ][ ][ ] Gear [ ] Market [ ][ ] Sample Wt. [ ][ ] Landing Wt. [ ][ ][ ][ ]

Sampler: _____ Otolith taken: Y or N Condition [ ] Sample # [ ][ ][ ][ ]

	Length mm	Sex	Weight lbs	C.H. L or R	AS	WSB			Length mm	Sex	Weight lbs	C.H. L or R	AS	WSB	B
1.								21.							
2.								22.							
3.								23.							
4.								24.							
5.								25.							
6.								26.							
7.								27.							
8.								28.							
9.								29.							
10.								30.							
11.								31.							
12.								32.							
13.								33.							
14.								34.							
15.								35.							
16.								36.							
17.								37.							
18.								38.							
19.								39.							
20.								40.							

COMMENTS: _____

YT = Yellowtail = 040 F.L. (Fork Length)
BO= Pacific Bonito = 003 F.L. (Fork Length)
CH = California Halibut = 222 T.L. (Total Length)
AS = Angel Shark = 165 A.L. (Alternate Length)
WSB = White Seabass = 400 T.L. (Total Length)
B = Barracuda = 130 T.L. (Total Length)

Please Circle One
Sample Wt: Whole or Dressed

Appendix 1. (Continued)

COMMERCIAL GROUNDFISH & DRIFT GILLNET
MARKET SAMPLES

BOAT NAME _____ LANDING DATE M M - D D - Y Y

BOAT # ☐☐☐☐☐ SPS CODE ☐☐☐ PORT CODE ☐☐☐ F&G BLOCK # ☐☐☐

DEPTH fa. ☐☐☐ GEAR ☐☐ MARKET ☐☐☐ SAMPLE WT. ☐☐☐☐☐ LANDING WT. ☐☐☐☐

SAMPLER ☐☐☐ AGE SAMPLE Y or N SAMPLE CONDITION: W or D SAMPLE # ☐☐☐

#	LENGTH	SEX	WEIGHT LBS.	AGE	YC	R/L
1						
2						
3						
4						
5						
6						
7						
8						
9						
10						
11						
12						
13						
14						
15						
16						
17						
18						
19						
20						

#	LENGTH	SEX	WEIGHT LBS.	AGE	YC	R/L
21						
22						
23						
24						
25						
26						
27						
28						
29						
30						
31						
32						
33						
34						
35						
36						
37						
38						
39						
40						

COMMENTS _____

_____

003 = PACIFIC BONITO (BO) = FORK LENGTH
040 = YELLOWTAIL (YT) = FORK LENGTH
091 = SWORDFISH = CLEITHRUM TO FORK
097 = BIGEYE THRESHER = ALTERNATE LENGTH
098 = PELAGIC THRESHER = ALTERNATE LENGTH
130 = BARRACUDA (B) = TOTAL LENGTH
151 = BONITO SHARK = ALTERNATE LENGTH
155 = COMMON THRESHER = ALTERNATE LENGTH
165 = ANGEL SHARK (AS) = ALTERNATE LENGTH
222 = CALIF.HALIBUT (CH) = TOTAL LENGTH
400 = WHITE SEA BASS (WSB) = TOTAL LENGTH
467 = OPAH = FORK LENGTH

GEAR 01 = HOOK & LINE
27 = TRAP
56 = TRAWL
66 = SET GILLNET
65 = DRIFT GILLNET

CONDITION W = WHOLE (Not Gutted)
D = DRESSED

SEX CODES 0 = UNKNOWN
1 = MALE
2 = FEMALE

11/89

Appendix 1. (Continued)

COMMERCIAL GROUNDFISH MARKET SAMPLING SHEET SAMPLER.

Landing Date:_____ Boat:_____ Boat #:_____ Species:_____

Block #:_____ Port:_____ Gear:_____ Sample Wt._____ Landing Wt:_____

Depth:_____ Otoliths Taken? Y or N (circle one) Market:_____

	CH	AS	WSB	B	Length mm.	Weight lbs.	Sex	Eyed Larvae Y or N		CH	AS	WSB	B	Length mm.	Weight lbs.	Sex	Eyed Larvae Y or N
1.									21.								
2.									22.								
3.									23.								
4.									24.								
5.									25.								
6.									26.								
7.									27.								
8.									28.								
9.									29.								
10.									30.								
11.									31.								
12.									32.								
13.									33.								
14.									34.								
15.									35.								
16.									36.								
17.									37.								
18.									38.								
19.									39.								
20.									40.								

Comments:

$\sum$=

Mean Wt.

Mean Length

Range

CH=California Halibut- T.L.

AS=Angel Shark- A.L.

WSB=White Seabass- T.L.

B=Barracuda -T.L.

Please Circle One

Sample Wt.: Whole; Dressed(guts &/or gills removed)

Sample Wt.: Whole; Dressed(caudal, pectorals, & guts removed)

Sample Wt.: Whole; Dressed(guts &/or gills removed)

Sample Wt.: Whole; Dressed(guts &/or gills removed)

Appendix 2. Length-Frequency Database Problems and Inconsistencies

Date	Boat#	Explanation
LENF81.DBF		
08/31/81	30330	Total length for spp. 91 given=1690 mm, 220 lbs; added to lenfxtra.dbf.
09/17/81	99999	Spp. 155, 2670 mm not on database. Market sample sheet?
11/02/81	23272	Two market codes for two separate landings on same date.
11/24/81	18857	NMFS editors changed spp. 155 to spp. 159 for length=295 mm, wt.=8 lbs.
11/24/81	31235	6 thresher lengths crossed out on MSS.
11/24/81	34053	Two market codes for two separate landings on same date.
12/04/81	31551	359 lbs. for spp. 91 2290 mm entered as a sampwt only.
LENF82.DBF		
09/01/82	841	Landing data shows boatno 844; landing wt. used.
09/20/82	7951	Fish landed at Fisherman's Wharf(market code 6897), taken to State Fish Co. (market 7857).
09/20/82	9220	Fish landed at Fisherman's Wharf(market code 6897), taken to State Fish Co. (market 7857).
09/20/82	14491	Fish landed at Fisherman's Wharf(market code 6897), taken to State Fish Co. (market 7857).
10/23/82	10292	Apparent MSS date error; changed by NMFS editor from 08/23/82 to 10/23/82 (from landing data).
10/23/82	10292	Two market codes for two separate landings on same date.
LENF83.DBF		
05/25/83	21753	Fish landed at Avila(port 602), trucked to Chesapeake Fish Co. (market 8905).
05/25/83	27622	Fish landed at Avila(port 602), trucked to Chesapeake Fish Co. (market 8905).
05/25/83	31651	Fish landed at Avila(port 602), trucked to Monterey Fish Co. (market 5612).
05/29/83	8314	Fish trucked to Point St. George Fisheries Inc.(market 4676) from unknown landing.
05/31/83	24316	Fish landed in Morro Bay at Pacific Shellfish (market code 6412); sold to Coastline in Santa Ana (market code 57).
07/21/83	32211	Unloaded fish in Morro Bay (port code 606); sold to Newport Shrimp Co. (market code 2320), Oregon.
08/18/83	99999	2 swordfish weigh 436 lbs. Landing data for boat 27443: 2916 lbs swordfish, boat 35204: 1281 lbs swordfish.
08/22/83	99999	3 Swordfish weigh 374 lbs possible boats from pink ticket data are 9409, 2637.

Appendix 2. (Continued)

Date	Boat#	Explanation
08/24/83	21753	Some lengths circled and replaced with 80mm shorter lengths by CDF&G editors.
08/25/83	99999	Boat 32485 landed 199 lbs sword.
09/06/83	2637	Fish mixed with boat 35983.
09/10/83	99999	Possible boatno 21403.
09/10/83	99999	Fish landed at Wayman (market code 6982), trucked to Santa Barbara Shellfish (market code 6448) and Flying Fish Co (market code 6407).
09/19/83	99999	Possible boatno 2547.
09/23/83	99999	Possible boatno 33732.
10/01/83	99999	Boat 24240 landed 480 lbs sword, 680 lbs thresh.
10/07/83	2848	Fish mixed with boatno 32485.
10/07/83	26916	Fish mixed with boatno 5367.
10/11/83	99999	Possible boatnos 12451, 37800, 30958.
LENF84.DBF		
01/13/84	35725	Boatno may be 27662 (from pink ticket data); landed 1354 lbs swordfish.
06/11/84	29788	No entry on MSS for 3 thresh lengths.
06/20/84	4279	Fish landed at Morro Bay (port code 606), trucked to Port San Luis (market code 6288), Olde Port Fish Co.(market code 6803).
06/21/84	99999	Trucked to Pioneer Fisheries (market code 7820); unknown port of landing.
06/29/84	37246	Unloaded to Pacific Shellfish, Morro Bay (market code 6412). Sold to Olde Port Fish Co (market code 6803).
07/09/84	8353	9 opah lengths crossed out by CDF&G editor.
07/26/84	99999	Trucked to American Fisheries (market code 80); unknown port of landing.
07/26/84	99999	Boat 30172 landed 145 lbs thresher.
08/24/84	36208	Sword lengths circle and replaced with 80mm shorter lengths by CDF&G editors.
08/24/84	36476	Sword lengths circle and replaced with 80mm shorter lengths by CDF&G editors.
08/24/84	99999	Trucked to Del Mar Fish Co. (market code 60240); landed in Morro Bay (port code 606).
08/29/84	160	Fish mixed with boats Union (boat #276227), Nancy(boat #8724), Katherine T(boat #32677).
08/30/84	20774	Sword lengths circle and replaced with 80mm shorter lengths by CDF&G editors.
08/30/84	21556	Sword lengths circle and replaced with 80mm shorter lengths by CDF&G editors.

Appendix 2. (Continued)

Date	Boat#	Explanation
08/30/84	29864	Sword lengths circle and replaced with 80mm shorter lengths by CDF&G editors.
10/06/84	32485	Fish mixed with boats Rose Marie(boat #34388), S. Frag(boat #32485), Patty Jo(boat #30767), Rosa Maria (boat #2848).
10/10/84	59	Unloaded in San Francisco; sold to Independent Fish Co (market code 7816).
10/10/84	2637	Angel shark lengths are alt2: second dorsal-caudal.
10/11/84	29719	Angel shark lengths are alt2: second dorsal-caudal.
10/18/84	26371	Angel shark lengths are alt2: second dorsal-caudal.
11/07/84	30937	Unloaded to San Pedro (Market code 7990); sold to G Street (market code 13); mixed with boats Willa G (boat #18256), Refer Down (boat #34576 not on current list).
12/10/84	31096	Swordfish sold to Olde Port Fish Co. (market code 6803); thresher sold to Pacific Shellfish in Morro Bay (market code 6412).
12/10/84	36476	Unloaded to Olde Port Fish Co. (market code 6803); trucked to unknown market.
LENF85.DBF		
01/09/85 thru 02/28/85		Angel shark lengths noted as being in cm but were actually in mm.
09/25/85	29864	Landed fish at Foghorn Fish Co. (market code 6503) and Central Coast Seafood Inc.(market code 6866).
10/18/85	37246	Landed fish at Pacific Shellfish, Morro Bay (market code 6412) and R.T.I., Inc. (market code 33).
LENF86.DBF		
02/25/86	36010	No MSS for one record on database.
06/23/86	4079	No MSS for two records on database.
07/25/86	38618	Fish caught with lampara seine gear.
08/18/86	36476	Unloaded at Morro Bay (port code 606); sold to Port San Luis (market code 6288).
08/28/86	27443	Landed Bonito shark at Pacific Shellfish, Morro Bay (market code 6412) and swordfish at Pt. St. George Fisheries Inc.(market 4676).
09/15/86	35034	No MSS for all records on database.
09/15/86	35124	No MSS for all records on database.
10/01/86	24055	40 swordfish landed at Leong kuba (market code 8308); 6 swordfish landed at Ghio (market code 8904); 1 swordfish landed at WA Fish & Oyster (market code 9007).
10/29/86	21077	Fish landed at 2 markets.
10/29/86	23946	Fish landed at 2 markets.

Appendix 2. (Continued)

Date	Boat#	Explanation
10/31/86	18458	Fish sold to Northwest Seafood (market code 6290) thru Branden (market code 6513).
10/31/86	36117	Fish sold to Northwest Seafood (market code 6290) thru Branden (market code 6513).
12/06/86	23946	Unloaded in Ventura (port code 613); measured in Morro Bay (port code 606).
12/10/86	4984	Fish unloaded to Central Coast Seafood (market code 6866) and World Fish West (market code 54).
00/00/86	32485	No MSS for all records on database.
LENF87.DBF		
08/04/87	99999	Fish landed to Monterey Fish Co. (market 5612) and Point St. George (market 4676); bought by Galleti Brothers (market code 7883 or 8344).
08/24/87	34470	Fish unloaded to Olde Port Fish Co. (market code 6803) and Cannery, Morro Bay (market code 6465).
08/27/87	17381	Swordfish unloaded to Cannery, Morro Bay (market code 6465) and Louvar unloaded to Central Coast Seafood (market code 6866).
08/27/87	34576	Swordfish unloaded to Cannery (market code 6465), Salmon shark unloaded to Central Coast Seafood (market code 6866).
10/05/87	21684	Fish landed at Galletti (market code 7883 or 8344) and Bob Morrell Enterprises (market code 5997).
10/05/87	22177	Fish landed at Catalina (market code 7501) and L.A. Fish & Oyster (market code 7818).
10/05/87	31252	Fish landed at Catalina (market code 7501) and L.A. Fish & Oyster (market code 7818).
10/06/87	4929	Fish trucked. Unknown landing.
10/06/87	38286	Landing port unknown; trucked to unknown market.
10/07/87	33020	8 extra records on database.
10/07/87	34576	Fish trucked to unknown market.
10/21/87	23468	Trucked to unknown market.
10/22/87	612	Trucked to unknown market.
10/26/87	7362	Swordfish and Bonito shark unloaded to Cal Island (market code 6458); thresher unloaded to Estero Bay Fish Co (market code 6283).
10/26/87	30391	Fish landed at Cannery (market code 6465) and Independent Fish Co. (market code 7816).
10/26/87	34476	24 swordfish and 9 Bonito shark unloaded to Cal Island (market code 6458); 3 thresher, 1 Louvar and 10 Opah unloaded to Estero Bay (market code 6283 or 1).
10/28/87	30937	Trucked to State Fish Co. (market 7857).

Appendix 2. (Continued)

Date	Boat#	Explanation
11/11/87	24168	Boatno may be 34168.
12/23/87	30455	Swordfish unloaded to Quality Pak, Morro Bay (market code 14); Opah unloaded to Cannery (market code 6465).
LENF88.DBF		
05/25/88	29345	Fish landed at Wayman (market code 6982), trucked to unknown Los Angeles market.
10/05/88	35101	2 swordfish records crossed out by CDF&G editor.
12/06/88	34384	Fish mixed with boats 34792, 35250.
12/09/88	30330	No MSS available for all records.
12/09/88	35124	No MSS available for all records.
12/09/88	40190	No MSS available for all records.
LENF89.DBF		
	38764	Boat number not on current list of gill net vessels.
	33537	Boat number 3087="Skiff" replaced throughout database with 33537.
01/31/89	33787	Market listed as "Pacific Shellfish Carlsbad" port is =880(San Diego).
01/31/89	36463	Market code 8323 listed on MSS is not on current market list. Fish sold to two markets.
02/07/89	38674	Boat "Rosalia S." boat number 38764 replaced with 38674 according to vessel's name.
02/14/89	30330	Boat number 30336 changed to 30330 for "Victoria".
03/04/89	38674	Boat number 38764 changed to 38674 for "Rosalia S".
04/01/89	38674	Page 1 of 2 of MSS not on microfilm.
06/02/89	38674	Gear listed as 65 (drift) but angel shark sampled.
06/29/89	7988	Gear listed on MSS as "66 Drift".
07/08/89	37124	Sum of weights of sampled fish disagrees with sample weight written in by sampler.
07/26/89	33537	Boat "SKIFF" boat number 36430 changed to 33537 according to current boat list.
07/29/89	33537	Boat number 38074 changed to 33537 for vessel "Skiff".
08/26/89	28573	Port code blank on MSS but 880 entered on data file.
08/31/89	31699	Market listed on MSS as "Harbor S.F. in Morro Bay", market code 6465 (entered on database file). Market code for "Harbor Sea Food" is 6482. Market code 6465 is "The Cannery" in Morro Bay.
09/07/89	36106	Fish sold to two markets - "Harbor Fisheries" and "Cannery".
09/08/89	612	sample number for opah changed from 4019 in data file to 419 to match MSS.

Appendix 2. (Continued)

Date	Boat#	Explanation
09/08/89	34792	sample number for opah changed from 4017 in data file to 417 to match MSS.
09/11/89	37704	Fish sold to two markets.
09/15/89	34725	Back side of MSS list two "bonito samples #10=20lbs. 430mm #11=52lbs. 540mm"(obviously not bonito but probably bonito shark). Opah sample weight =171 but MSS says 271.
09/21/89	33784	Port code left blank on MSS. Port code 880 entered in data file.
09/25/89	13391	Fish sold to two markets- "Harbor Fisheries" and "Cannery".
09/27/89	21753	Fish sold to two markets.
09/27/89	35341	For swordfish, MSS says all fish landed were sampled but sample weight and landing weight disagree.
09/27/89	35341	Two different landing weights indicated on MSS.
10/11/89	10292	Records for this landing moved from LENF90.DBF to LENF89.DBF.
10/13/89	13198	Boat number 29638 changed to 13198 according to boat name.
10/18/89	37220	Two different landing weights indicated on MSS.
10/26/89	30330	3 Records missing from market sample sheet.
11/06/89	1686	Boat "St. Ann" boat number changed from 36117 to 1686.
12/06/89	34990	Boat number 34490 changed to 34990 according to MSS.
LENF90.DBF		
01/02/90	3020	MSS indicates three pages but only 2 MSS pages on microfilm.
01/30/90	30572	Market code 27 listed on MSS. Code 27 changed to 6844.
04/25/90	30330	MSS microfilmed twice. Two copies of 1 MSS on microfilm.
06/13/90	36410	One soupfin shark with 27 pups: 14 male+ 12 female. Three unknown species with alternate lengths 102mm (male), 99mm (male), 104mm (female).
09/24/90	18590	Fish landed at Central Coast Seafood (market code 6866), sold to Galleti (market code 7883 or 8344).
10/01/90	30455	MSS lists block number 299 which doesn't exist.